

THE ARCHAEO+MALACOLOGY GROUP NEWSLETTER

Issue Number 14, December 2008

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

Editorial

This issue of the AMG Newsletter includes topics ranging from the early colonisation of Ireland to land snails from a Roman burial plot, from Upper Palaeolithic shell ornaments to a decorated shell disc from the United Arab Emirates, and much more besides. Please help to keep this newsletter interesting and varied by contributing short articles, news, reviews and reports on any aspects of archaeomalacological research for the next issue! All items and correspondence should be sent to the email address given above.

My thanks are due to Kath Szabo of the ICAZ Archaeomalacology Working Group and to Aydın Örstan for posting this newsletter on their websites at <http://triton.anu.edu.au/> and <http://home.earthlink.net/~aydinslibrary/AMGnews.htm>, respectively, and to all this issue's contributors. (JRS)

***Conus arenatus aequipunctatus* at Tel Bet Shemesh, Israel: from cone 'crowns' to holed cone rectangles**

Karin Tamar and Henk K. Mienis

Department of Zoology, Tel Aviv University, IL-69978 Tel Aviv, Israel
Email: karintmr259@yahoo.com and mienis@netzer.org.il

Tel Bet Shemesh is a large, important archaeological site covering some 7 acres [2.83 ha] near the modern town of Bet Shemesh, Israel. The site has been excavated intermittently since 1911-1912. The British archaeologist D. Mackenzie carried out the first excavation on behalf of the Palestine Exploration Fund. He recognised three levels of occupation; the oldest period was dated to the Middle Bronze Age (1750-1550 BC). During the period 1928-1933, E. Grant resumed the excavation. He found six levels of occupation of which the youngest one ended at about 586 BC. Since 1990 S. Bunimovitz and Z. Lederman of the Institute of Archaeology, Tel Aviv University, have been digging at Tel Bet Shemesh. The latter excavations are especially focused on the Late Bronze and Iron Age periods.

During all the excavations large amounts of zoological remains were found. Those from the 2004-2008 seasons are currently being studied by Karin Tamar, while the molluscs among them have been identified by Henk K. Mienis. The results of these studies will be presented in a MSc thesis by Karin Tamar.

Among the shells found at Tel Bet Shemesh are 14 items of particular interest. The first nine specimens that we received for study showed all the characteristics of *Conus arenatus aequipunctatus* Dautzenberg, 1937, including the typical colour pattern. This subspecies of the Sand-dusted Cone seems to be confined to the north-east corner of the Indian Ocean (Coomans, *et al.*, 1981) and occurs commonly in the Gulf of Aqaba (Fainzilber, *et al.*, 1992; Heiman, 2002). Two specimens were found in Late Bronze Age layers, while the seven other specimens were associated with the Early Iron Age period.

What made these cones so enigmatic was the fact that these nine items consisted of the shell apex only. All the shells were represented by the upper whorls and about 0.5-1 cm of the adjoining part of the body whorl. The lower 75% of the body whorl had been cut off in a rather rough way and no effort had been made to polish the irregularly broken edge. Since all

the whorls in this cone species show regular spiny knobs on the shoulders, i.e. all the whorls are coronated, these tops looked like little crowns.

We could not ascertain the purpose of these cone ‘crowns’. However, some of them were filled with a plaster-like substance as if they had been stuck into something as a kind of decoration. A search of the literature has failed to reveal any similar finds of cone ‘crowns’ elsewhere, not to mention the possible use of such items.

Just before we submitted this note, we received another batch of five specimens from a single locus, which showed various stages of further manipulation. One was more or less the same size as the cone ‘crowns’; however, it had not only the broken edge polished, but also all around the side and the top. Although it was missing the original colour markings, the shoulder of the body whorl still showed the typical coronation.

The four additional specimens had been cut into rectangles and the top had been polished in such a way that it formed a flat surface with a hole in its centre. Since one rectangle still showed traces of the coronation in one corner, we are convinced that all the 14 specimens, ranging from cone ‘crowns’ to holed cone rectangles, were made from *Conus arenatus aequipunctatus*. Since they showed various stages of manipulation, these modifications appeared to have been carried out at the site.

Bar-Yosef Mayer (2008) considered the cone apex bead, a large disc bead cut from the spire of a Red Sea *Conus* shell with a large perforation in its centre, as a chronological marker for the Early Bronze II period. From the material excavated at Tel Bet Shemesh we now know that the slightly different holed cone rectangles were manufactured at least during the Early Iron Age period and possibly also during the Late Bronze Age, because cone ‘crowns’ were present among the excavated material from that period. Whether the holed cone rectangles served as beads or were used for other purposes remains unknown.

Acknowledgements

We would like to thank Drs S. Bunimovitz and Z. Lederman for allowing us to study the material from their excavations at Tel Bet Shemesh.

References

Bar-Yosef Mayer, D.E., 2008. Archaeomalacological research in Israel: the current stage of research. *Israel Journal of Earth Sciences*, 56: 191-206.

Coomans, H.E., Moolenbeek, R.G. and Wils, E., 1981. Alphabetical revision of the (sub)species in recent Conidae 4. *aphrodite* to *azona* with the description of *C. arenatus bizona*, nov. subsp. *Basteria*, 45: 3-53.

Fainzilber, M., Mienis, H.K. and Heller, J., 1992. The Conidae (Mollusca, Gastropoda) of the shallow waters of the east coast of Sinai, Gulf of Elat, Northern Red Sea. *Argamon, Israel Journal of Malacology*, 14: 1-16.

Heiman, E.L., 2002. Shells of East Sinai, an illustrated list. Conidae. *Triton*, 5: 19-23.

Land snails from the burial plot of the *gens Calventii* (Porta Nocera) at Pompeii: a preliminary report

Ezequiel M. Pinto-Guillaume

Istituto Svedese di Studi Classici a Roma, Via Omero 14, 00197 Roma, Italy

Email: pinto.guillaume@gmail.com

In August and September 2008, Mónica Saldías, an independent researcher from Sweden, whilst continuing her investigations in the burial plot of the *gens Calventii* (Area B South - Porta Nocera) at Pompeii (for information on earlier investigations carried out at this burial plot, see Saldías, 2008), came upon the remains of several snail shells. I agreed with interest and curiosity to look at this collection. These are my observations on the organic remains.

The snail shells were found within a context which has been identified as an *ustrinum*, namely the place where a funeral burning rite has taken place. This area is located in the north-west area of the sepulchre (Trench 4). The snail shells were found at the north-western

angle within this context, where considerable concentrations of carbonised remains were found. The soil in this area, at approximately 45 cm below the 79 BC level, was dark brown (Mónica Saldías, personal communication). The shells were all recovered by hand in the field. They consist mainly of fragmentary remains. Fewer than half of the shells were almost complete with only the apex or a shell margin broken off. Among these fragments I was able to identify 10 terrestrial gastropod (land snail) individuals belonging to three different species: *Oxychilus draparnaudi* (Beck, 1837) (Relative Number of Individuals = 7), *Papillifera papillaris* (Müller, 1774) (RNI = 2) and *Helix* sp. (RNI = 1).

The species encountered are all small land snails: their presence at the site of the funeral burning spot seems to be fortuitous since they were neither used for food nor ritual purposes. Three of the *Oxychilus draparnaudi* specimens were dark grey in colour, evidencing that they had been exposed to fire. The characteristics of the preferred habitats of the snails encountered can help us to interpret the immediate environment of the burial plot of the *gens Calventii* (Porta Nocera) at Pompeii just before the burning ritual took place (Table 1).

Table 1: Ecological characteristics of the land snails found in the burial plot of the *gens Calventii* (Porta Nocera) at Pompeii

Species	RNI	Observations	Preferred environment	Habitat
<i>Oxychilus draparnaudi</i>	7	3 burnt specimens	Open areas, dry walls, gardens	Hydrophilic-Mesophilic
<i>Papillifera papillaris</i>	2	--	Walls, rocky habitat	Mesophilic-Xerophilic
<i>Helix</i> sp.	1	Fragments	Indifferent, gardens	Mesophilic

Oxychilus draparnaudi shells are the most numerous in the collection. These zonitids are sciophilous, i.e. favour shade and have a preference for dry walls and gardens (Girod, 1998: 14; Pinto-Guillaume, 2002: 40-41; Syrdes, 2005: 345). They prefer an organic soil type with some calcium carbonate present. *Papillifera papillaris* is also present in the collection. Door snails of this kind tend to favour dry sheltered places, among walls and rocks, and in gardens and banks (Reese, 1982: 95; Syrdes, 2005: 346). The genus *Helix*, which is represented by a single specimen, is indifferent to any particular habitat and adapts easily to diverse sites; however, these snails do prefer gardens and parks although they may also be found in dunes, woods and rocks and in hedgerows (Reese, 1982: 95; Pinto-Guillaume, 2002: 42), often in soils with high concentrations of calcium carbonate.

Therefore, we can assume that the burial plot in question was an open area with some wall structures, probably associated with graves. The soil was organic and had a high calcium carbonate content. From this, and in accordance with the other organic remains in the area, we are able to imagine a relatively humid area having structures made of stone elements. There would have been some shade, probably cast by the surrounding structures. The vegetation would have consisted mainly of grasses and some other small plants. Thus, the evidence provided by the shell remains is consistent with the probable characteristics of the site in question.

The value of this land snail collection is two-fold: on the one hand, it provides us with important information on the environment of the burial plot of the *gens Calventii* immediately prior to the ritual burning, while, on the other hand, the three burnt specimens of *O. draparnaudi* provide actual evidence of burning activity having taken place at the site.

Acknowledgement

I would like to thank Mónica Saldías for allowing me to study these invertebrate remains in October 2008.

References

- Girod, A., 1998.** Land snails of the Chalcolithic cemetery of Spilamberto (Modena) - Northern Italy. *Pianura - Scienze e storia dell'ambiente padano*, 10: 13-17.
- Pinto-Guillaume, E.M., 2002.** Mollusks from the Villa of Livia, Prima Porta, Rome: The Swedish Garden Archeological Project, 1996-1999. *American Journal of Archaeology*, 106 (1): 37-58.
- Reese, D.S., 1982.** The molluscs. In: Whitehouse, D., Barker, G., Reece, R. and Reese, D. (eds), *The Schola Praeconum I: the coins, pottery, lamps and fauna. Papers of the British School at Rome*, 50: 91-101.
- Saldías, M., 2008.** Pompeii, the ritual space of the columella gravestones. A report of the investigation of the burial plot of the *gens Calventii* (Porta Nocera). In: Guzzo, P.G. and Guidobaldi, M.P. (eds), *Nuove ricerche archeologiche nell'area vesuviana (scavi 2003-2006)*. pp. 389-398.
- Syrides, G.E., 2005.** Mollusks from the Pyrgouthi excavations in the Berbati Valley, Argolis, Greece. In: Hjøhlman, J., Penttinen, A. and Wells, B. (eds), *Pyrgouthi: a rural site in the Berbati Valley from the Early Iron Age to Late Antiquity*. Stockholm. pp. 343-358.

Freshwater molluscs from the Herodian Pool at Khirbat Fasayil

Henk K. Mienis

National Natural History Collections, Berman Building, Hebrew University of Jerusalem,
IL-91904 Jerusalem, Israel
Email: mienis@netzer.org.il

Khirbat Fasayil (= Horbat Peza'el) consists in part of the ruins of Phasaelis, an ancient city founded by Herod the Great (74-73 BC) north of Jericho in the Lower Jordan Valley (Mowry, 1952). The town was named by Herod in honour of his deceased brother Phasael. This area, west of the river Jordan, was at that time famous for its excellent date palms, which were commercially grown between Phasaelis in the north and En Gedi in the south.

Like most cities built by Herod, Phasaelis had its own pool or cistern, although it was not mentioned as such by either Netzer (2006) or Gichon (1978). If it was not intended as a bathing pool, then it served at least as a local water reservoir.

On 26 October 1977 a sediment sample was taken from the bottom of the remains of the Herodian Pool in Khirbat Fasayil. This sample turned out to be rich in faunal remains. The molluscs among them were presented to Prof. Eitan Tchernov, but were never studied by him. Recently the small box containing the molluscs was relocated and a study of the material revealed the presence of eight different species (Table 1).

Table 1: Freshwater molluscs collected from the remains of the Herodian Pool at Khirbat Fasayil

Species	Specimens
<i>Theodoxus (Neritaea) michonii</i> (Bourguignat, 1852)	1 juvenile
<i>Heleobia (Semisalsa) contempta</i> (Dautzenberg, 1894)	1 shell
<i>Melanoides tuberculata</i> (Müller, 1774)	numerous shells
<i>Melanopsis buccinoidea</i> (Olivier, 1801)	30 shells
<i>Bulinus truncatus</i> (Audouin, 1826)	13 shells
<i>Pisidium (Euglesa) casertanum</i> (Poli, 1791)	2 complete specimens
<i>Pisidium (Euglesa) personatum</i> (Malm, 1855)	18 valves
<i>Pisidium (Odhnerpisidium) annandalei</i> Prashad, 1925	1 complete specimen

The prosobranchs among the gastropods (*Theodoxus*, *Heleobia*, *Melanoides* and *Melanopsis*) are characteristic of the streamlets and springs in the Lower Jordan Valley. A noteworthy absentee among the prosobranchs is *Melanopsis cerithiopsis* Bourguignat, 1884, a species which usually accompanies *M. buccinoidea* in that part of the Middle East.

The find of 13 shells of *Bulinus truncatus* is intriguing. A single shell of *Bulinus truncatus*, the well-known intermediate host of *Schistosoma haematobium*, a trematode parasite causing

urinary schistosomiasis in human beings, was reported by Biggs (1960) from the excavation of nearby Jericho. However, the hypothesis that this might have been the likely reason for the fall and abandonment of Jericho and the curse of Joshua (Hulse, 1971; Boling, 1983) is probably going a little bit too far, although it can not be ruled out completely. Fasayil is situated only 17.5 km north of Jericho in the same Lower Jordan Valley and, although *Bulinus truncatus* seems to have been a very common snail in the water of the Herodian Pool, the village was never declared off limits and was still known as Phasellum during the Middle Ages.

The presence of three different species of Pea Clams (*Pisidium* spp.) is also noteworthy. *Pisidium casertanum* and *P. annandalei* are the dominant species in the Middle East, being encountered in almost every spring and stream. This is, however, not the case with *Pisidium personatum*, which although collected previously in the Israel-Palestine area, now has to be considered a rare species.

References

- Biggs, H.E.J., 1960.** Mollusca from prehistoric Jericho. *Journal of Conchology*, 24 (11): 379-387.
- Boling, R.G., 1983.** Enigmatic Bible passages: Jericho off limits (Joshua 6: 26). *The Biblical Archaeologist*, 46 (2): 115-116.
- Gichon, M., 1978.** Roman bath-houses in Eretz - Israel. *Qadmoniot*, 11 (2-3) [42-43]: 37-53. (In Hebrew.)
- Hulse, E.V., 1971.** Joshua's curse and the abandonment of ancient Jericho: schistosomiasis as a possible medical explanation. *Medical History*, 15: 376-386.
- Mowry, L., 1952.** Settlements in the Jericho Valley during the Roman period (63 B.C. – A.D. 134). *The Biblical Archaeologist*, 15 (2): 25-42.
- Netzer, E., 2006.** The architecture of Herod, the Great Builder. *Texts and Studies in Ancient Judaism*, 117: xiii + 443 pp. Tübingen, Mohr Siebeck.

Another look at a decorated shell disc from Sharm, Fujairah, United Arab Emirates: not *Spondylus* but *Lambis*

Henk K. Mienis

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

Decorated shell discs are well-known artefacts found occasionally during excavations in the Middle East. They were once considered to have been made of Giant Clams (*Tridacna* spp.) from the Red Sea (Brandl, 1984). However, not only are these discs much thinner than the mean thickness of a *Tridacna* shell, the curvature of the shell is also completely different, while the inside shows in most examples a rim, which is not known to occur in *Tridacna*.

A follow-up study of such discs has revealed that all of them were made from the large body whorl of Seba's Spider Conch, *Lambis truncata sebae* (Kiener, 1843) (Mienis, 1988, 1992, 2006; Reese, 1995, 1996). The internal rim corresponds with the place where the body whorl adheres to the previous whorl. Finds of unfinished shell discs made of *Lambis* have been reported from Jerusalem (Mienis, 1992, 2006). This Spider Conch is known to occur in the coastal waters of the Arabian Peninsula.

Two types of decoration are known to occur on these shell discs: stylised lotus flowers (Brandl, 1984; Mienis, 1988) and a dot-in-circle pattern (Reese, 1996). The latter type of decoration is also well-known from soft-stone vessels and has been described in detail by Ziolkowski and Al-Sharqi (2006).

A few years ago Barker and Hartnell (2000) published a decorated shell disc presumed to have been made from a Spiny Oyster (*Spondylus* sp.). This disc was found during the

excavation of Sharm, Fujairah, United Arab Emirates (mid-second century BC to the first centuries AD).

A careful study of the published figures showing the exterior of that shell disc revealed the characteristics of *Lambis* and not of *Spondylus*. The lower part of the disc shows the suture separating the body whorl from the penultimate whorl and the slight depression just below the suture. In the photograph and the drawing, this depression is clearly visible above the suture because the shell disc is printed upside down. In other words, in the case of the shell disc from Sharm, we are also dealing with one made from Seba's Spider Conch.

The decoration of the Sharm disc, which shows a dot in a double circle, seems to be a variant of the more common dot in a single circle pattern as figured by Reese (1996).

References

- Barker, D. and Hartnell, T., 2000.** Notes on a decorated spiny oyster from Sharm. *Arabian Archaeology and Epigraphy*, 11 (2): 204-206.
- Brandl, B., 1984.** The engraved *Tridacna*-shell discs. *Anatolian Studies*, 34: 15-41.
- Mienis, H.K., 1988.** Een gegraveerde *Lambis*-schijf uit de opgravingen van de "City of David" in het oude Jeruzalem, Israël. *Correspondentieblad van de Nederlandse Malacologische Vereniging*, 242: 430-432.
- Mienis, H.K., 1992.** Molluscs. In: Groot, A. de and Ariel, D.T. (eds.), Excavations at the City of David 2978-1985, directed by Yigal Shiloh. Vol. III: Stratigraphical, environmental, and other reports. *Qedem*, 33: 122-130. Jerusalem.
- Mienis, H.K., 2006.** Shells. In: Geva, H. (ed.), *Jewish Quarter excavations in the Old City of Jerusalem conducted by Nahman Avigad, 1969-1982. Vol. III: Area E and other studies, final report.* Israel Exploration Society and Institute of Archaeology, Hebrew University of Jerusalem. pp. 316-319.
- Reese, D.S., 1995.** Marine invertebrates and other shells from Jerusalem (Sites A, C and L). In: Eshel, I. and Prag, K. (eds), Excavations by K.M. Kenyon in Jerusalem 1961-1967. Vol. IV. *British Academy Monographs in Archaeology*, 6: 265-278. Oxford.
- Reese, D.S., 1996.** Kish and shell game. *In the Field, Bulletin of the Field Museum*, 67 (1): 11.
- Ziolkowski, M.C. and Al-Sharqi, A.S., 2006.** Dot-in-circle: an ethnoarchaeological approach to soft-stone vessel decoration. *Arabian Archaeology and Epigraphy*, 17: 152-162.

Archaeology, DNA patterns and the colonisation of Ireland by snails

This was the title of a talk presented to the Conchological Society of Great Britain and Ireland in London on 4 October 2008, by Adele Grindon of Nottingham University. Adele has studied the mitochondrial DNA of more than 950 individuals of *Cepaea nemoralis* (Linnaeus, 1758) collected from over 100 western European localities, and has found a genetic link between white-lipped populations from the west coast of Ireland and from the Pyrenees (Grindon, 2008). This substantiates the long-held hypothesis of a 'Lusitanian' origin for some of the Irish fauna, including other molluscs such as the Kerry slug *Geomalacus maculosus* Allman, 1843 and the Pyrenean glass snail *Semilimax pyrenaicus* (Férussac, 1821).

Cepaea nemoralis is polymorphic for lip colour, and the white-lipped variety outnumbers the brown-lipped form in parts of north-west Ireland, the west coast of Scotland, the tip of Cornwall, Denmark – and the Pyrenees. At least four lineages of *C. nemoralis* exist in Ireland, and most of these appear to have been derived from populations in the Pyrenees. However, there is little evidence that other white-lipped populations in mainland Britain and Europe are primarily derived from Iberian populations. Given that fossil evidence indicates that *C. nemoralis* has been present in Ireland for at least 8000 years, it is suggested that it may have been introduced in association with a post-glacial human colonisation of Ireland from Spain, perhaps accidentally hidden among plant material or even deliberately as a food source, bearing in mind that this species has been found in 9400-year-old shell middens in Pyrenean caves (Bahn, 1983). This hypothesis is given some support by an independent study of the human Y chromosome, which has demonstrated a link between populations in Ireland and the Basque Country. The separate lineages of *C. nemoralis* suggest that there may have been more than one episode of colonisation. (JRS).

References

- Bahn, P.G., 1983.** Late Pleistocene economies of the French Pyrenees. In: Bailey, G. (ed.), *Hunter-gatherer economy in prehistory: a European perspective*. Cambridge University Press. pp. 168-186.
- Grindon, A., 2008.** Lip colour polymorphism in *Cepaea nemoralis*. *Mollusc World*, No. 18 (November 2008): 27-29.
-

Papillifera at Carthage

An archaeological holiday spent exploring Punic and Roman sites in northern Tunisia in October 2008 revealed a couple of fresh shells of *Papillifera bidens* (Linnaeus, 1758) (= *Papillifera papillaris* (Müller, 1774)) at Carthage. The shells were found in a garden on the side of Byrsa Hill, close to the remains of a Punic residential quarter. These buildings were levelled and buried by the Romans, who proceeded to build their capitol and forum on top of the hill.

Is *Papillifera bidens* native to this part of North Africa? Several other 'European' species occur on both sides of the western Mediterranean, such as *Trochoidea elegans* (Gmelin, 1791) and *Cernuella virgata* (da Costa, 1778). However, the homeland of *P. bidens* is believed to be limited to the Italian Peninsula and nearby islands, including Corsica and Sicily (Falkner, 1990). The tip of the Cap Bon peninsula in north-east Tunisia is only 150 km from Sicily, but *P. bidens* was not found there, despite a fairly intensive search. Therefore, was this species introduced to Carthage by the Romans?

The spread of *Papillifera bidens* outside its natural homeland by human agency is well-attested (Ridout-Sharpe, 2005; Örstan, 2006) but many questions remain to be answered concerning the limits of its natural distribution area and when and where dispersal has taken place (Gümüş, 2006; Mienis and Gümüş, 2007). I would very much like to receive any further data that readers may have relating to the occurrence of this species on archaeological sites in the Mediterranean region and beyond.

The proposal by Mienis and Gümüş (2007) that the nomenclature of this snail should be *Papillifera bidens* and not *P. papillaris* is supported by Robert Cameron (2008), who has used the former name in the second edition of his identification guide to the land snails of the British Isles, in which the colony discovered at Cliveden House in southern England (Ridout-Sharpe, 2005) is accepted as a new addition to the British fauna. (JRS)

References

- Cameron, R., 2008.** *Land snails in the British Isles*. 2nd edn. Preston Montford, Field Studies Council. (AIDGAP series.)
- Falkner, G., 1990.** Binnenmollusken. In: Fechter, R. and Falkner, G. (eds), *Weichtiere. Europäische Meeres- und Binnenmollusken*. München, Mosaik.
- Gümüş, B.A., 2006.** Additional data on the distribution of *Papillifera papillaris* (O.F. Müller, 19774) (Gastropoda: Pulmonata: Stylommatophora: Clausiliidae) in Istanbul, Turkey. *Archaeo+Malacology Group Newsletter*, No. 10 (December 2006): 4-6.
- Gümüş, B.A. and Mienis, H.K., 2007.** More notes on the extra-territorial distribution of *Papillifera papillaris*, a species often associated with archaeological sites. *Archaeo+Malacology Group Newsletter*, No. 11 (May 2007): 4-7.
- Örstan, A., 2006.** The clausiliid snail *Papillifera papillaris* in Istanbul, Turkey. *Archaeo+Malacology Group Newsletter*, No. 9 (March 2006): 6-7.
- Ridout-Sharpe, J., 2005.** *Papillifera papillaris* (Gastropoda: Clausiliidae): a new record for Britain. *Archaeo+Malacology Group Newsletter*, No. 7 (March 2007): 6-7.
-

Abstracts of recent publications

Assefa, Z., Lam, Y.M. and Mienis, H.K., 2008. Symbolic use of terrestrial gastropod opercula during the Middle Stone Age at Porc-Epic Cave, Ethiopia. *Current Anthropology*, 49 (4): 746-756, 7 figs.

ABSTRACT: During the 1975-76 excavations at Porc-Epic cave in south-eastern Ethiopia, 419 non-fragmented opercula and many fragmented opercula were recovered from 89 excavation quadrats (50 x 50 x 10 cm). The opercula are identified as those of the terrestrial gastropod *Revoilia guillainopsis*. Each operculum has a central perforation and unbroken specimens resemble ostrich eggshell disc beads. Microscopic examination revealed localised polishing but could not unequivocally confirm their manufacture or use as beads. However, the absence of shells at the site suggests that the opercula were collected by humans and brought to the cave for reasons unrelated to subsistence. Direct accelerator mass spectroscopy dating of these opercula from different stratigraphic levels has produced ages ranging from about 33,000 to more than 43,000 years old. If they are shown to be beads, the opercula from Porc-Epic would represent the earliest known such use of this material.

Campbell, G., 2008. Beyond means to meaning: using distributions of shell shapes to reconstruct past collecting strategies. *Environmental Archaeology*, 13 (2): 111-121.

ABSTRACT: Archaeological marine shell assemblages are often compared by the average size of a given shell species, with smaller average sizes taken as indicating greater human exploitation. This is considered simplistic, since the average size of a species of shellfish naturally varies considerably across a shore and over time. This distribution of shell size, shape and density varies systematically, according to a predictable pattern. Ancient shellfish collecting strategies can be reconstructed by comparing distributions of size, shape and age of archaeological shells to this systematic pattern. Using limpets (*Patella vulgata*) as a prime example, it is shown how the size distribution of a given species from an archaeological assemblage has the potential to identify multiple sources of shells and their relative shore position.

Dommergues, E., Dommergues, J.-L. and Payne, S., 2008. Colourblind taxonomy. *Mollusc World*, No. 18 (November 2008): 24-26.

ABSTRACT: Shell colour and colour patterns, which are often lost in fossil shells and shells from archaeological sites, can be critical for the correct identification of species. The effect of colour loss in the interpretation of fossil assemblages was investigated by applying palaeontological approaches to samples of modern shells, the European cowries *Trivia arctica* and *Trivia monacha*, without using colour information. These are distinct species with anatomical, biological and distributional differences. Using individual species and mixed species samples, a principal components analysis of the dorsal, lateral and apical outlines of the shells was undertaken, together with measures of shell height relative to length and width, and rib density. The results showed that the risk of failing to recognise and separate different species increases without colour information. Increased variability does not always detect that a sample includes more than one species.

Mienis, H.K., 2007. Two shells ... pp. 64-65. In: van den Brink, E.C.M., Gophna, R. and Ovadia, A., Burial cave 2 in the Azor-Holon cemetery: an Early Bronze Age I tomb with Egyptian finds. *Agypten und Levante/Egypt and the Levant*, 17: 59-71.

ABSTRACT: Two cone shell beads were recovered from the spoil heap during the re-examination of this EB I burial cave, which was clandestinely excavated in 1968. Both have man-made holes at the top, probably formed by rubbing the apex of the shell against an abrasive stone. Despite the proximity of Azor to the Mediterranean Sea on the central coastal plain of Israel, the form of the cone shells, with straight conical sides and flat tops, ruled out

their identification as the Mediterranean Cone, *Conus mediterraneus*. The more pointed conical apex of the latter would have resulted in a much larger hole if ground down to the same level. Instead, the cone shells are thought to have come from the Red Sea; despite their lack of colour and detailed microsculpture, *Conus flavidus* is a possible candidate species.

Reese, D.S., 2007. Zooarchaeology on Cyprus. Report of the Department of Antiquities, Cyprus, (2007): 469-484.

ABSTRACT: A review of zooarchaeological research on Cyprus is presented, with the emphasis on tombs and sanctuaries, and imported exotic fauna. A brief history is followed by a listing by period of the published reports or ongoing research on faunal material from excavations in Cyprus: Pre-Neolithic, Aceramic Neolithic, Late Neolithic, Chalcolithic, Early and Middle Cypriot, Late Cypriot, Iron Age tombs, and Iron Age to Medieval sites. There have been relatively few published faunal reports on material from the Late Neolithic, Early and Middle Cypriot, and Roman and later periods. The 240 references, which date from 1877 to the present, include all faunal papers which deal with Cypriot material, excluding those solely concerning worked bones or shells, and animal figurines or representations. Of these references, 47 of them deal specifically with molluscs.

Reese, D.S., 2008. Organic imports from Late Bronze Age Cyprus (with special reference to Hala Sultan Tekke). Opuscula Atheniensia, 31-32 (2006-2007): 191-209.

ABSTRACT: Organic remains believed to be the result of trade and found at Late Bronze Age sites on Cyprus are reviewed, with particular reference to the south-eastern coastal site of Hala Sultan Tekke. The remains are grouped according to material, such as elephant and hippopotamus ivory, non-domesticated animal bones, ostrich eggshell, tortoise carapaces, fishes – and molluscs. The latter include shells from the Red Sea: two *Cypraea annulus* and one *Nerita albicilla*, all holed in the same way and representing the earliest imported shells on Cyprus. The Nile freshwater bivalve, *Chambardia rubens arcuata*, was also found. Worked examples of *Monodonta turbinata* [= *Osilinus turbinatus*] (a ‘topshell ring’) and *Conus mediterraneus* are also considered as imports because of their methods of working and the distribution of similar worked shells, although both these species are common in Cypriot waters. A catalogue of worked *C. mediterraneus* shells from Cyprus, Greece (including Crete) and Israel is appended.

Reese, D.S., 2008. Shells from Jerusalem: sites B, D, E, J, S and V. In: Prag, K. (ed.), Excavations by K.M. Kenyon in Jerusalem 1961-1967. V: Discoveries in Hellenistic and Ottoman Jerusalem. Centenary volume: Kathleen M. Kenyon 1906-1978. Oxford, Council for British Research in the Levant and Oxbow Books. (Levant Supplementary Series 7.) pp. 455-466.

ABSTRACT: This study included 58 shells from the Mediterranean Sea, 13 from the Red Sea and 15 from the River Nile, together with four freshwater shells and 65 land snails of local origin. All the finds are catalogued according to site and period. Mediterranean shells included 25 *Glycymeris insubrica* (22 were beach specimens and this species is not considered to have been a food source, although only 11 were holed) and 14 *Donax trunculus* (fresh shells and probably a minor food source). Other less frequent species were *Hexaplex trunculus* (n=7), *Bolinus brandaris* (n=3), *Stramonita haemastoma* (n=3), *Acanthocardia tuberculata* (n=2), *Charonia* sp. (2 fragments), and single specimens each of *Luria lurida*, *Conus mediterraneus* and *Venus verrucosa*. Nine of the Red Sea shells were valves of *Pinctada margaritifera*, several of which were engraved with ring-and-dot motifs, ‘petals’ and parallel lines. Other Red Sea species were *Tridacna maxima* (n=2), *Cypraea pantherina/tigris* (n=1) and *Tectus dentatus* (n=1). The Nile shells were all valves of *Chambardia rubens arcuata*, only one of which had been obviously worked (holed). The freshwater shells comprised *Unio* sp. (n=2) and *Melanopsis buccinoidea* (n=1). The land

snails were dominated by *Levantina spiriplana* (n=49), with *Oxychilus* sp. (n=14) and *Helix engaddensis* (n=2): all three species are considered intrusive.

With thanks to Henk Mienis and David Reese for sending copies of their latest publications.

Book review

Snails: archaeology and landscape change

Paul Davies, 2008. Oxford, Oxbow Books. xvi + 199 pp. ISBN 978-1-84217-317-6

This is the first textbook on land and freshwater subfossil molluscan analysis to be published in Britain for over 35 years. John Evans' seminal book, *Land snails in archaeology*, dealt specifically with molluscs preserved in archaeological deposits and concentrated on contexts such as buried soils and ditch fills associated with monuments. Since 1972 when this book was published, however, both subfossil molluscan studies and archaeology have changed a great deal, with the former developing new techniques and the latter becoming more interested in whole landscapes rather than specific sites.

This book is not intended to be a direct replacement for Evans (1972), although it similarly covers the general principles and methods of molluscan analysis, stresses the importance of understanding molluscan ecology, and discusses recent advances in archaeomalacological research concerning land snails. More generally, however, it takes a broader European perspective and includes case studies from contexts that are not specifically related to archaeological sites, such as wet-ground deposits, colluvium, scree and cave deposits, blown sand, and fluvial deposits. The book therefore takes a contextual rather than a strictly chronological approach. The geographical scope is primarily that of Great Britain and northern Europe, but the opportunities for such studies as the book describes are worldwide, and it is hoped that the contextual approach will encourage similar studies in new geographical areas. The timeframe considered is the Late Quaternary (the last 15,000 years), although the methods described are applicable to broader Quaternary studies.

Chapter 1 looks at the methodology of molluscan analysis including laboratory procedures, identification (necessarily brief and not particularly helpful), recording and interpretation, and Chapter 2 describes neocological aspects such as distribution, habitat-based studies and small-scale spatial studies. Chapter 3 considers molluscan zonation in Britain and central Europe as the result of late- and post-glacial environmental change. Archaeologically related molluscan research is discussed in Chapters 4 and 5 with reference to ecological studies and the interpretation of past land use, the use of taxocenes as an interpretive framework, and different archaeological contexts and interpretative issues. The contextual approach outlined above is covered by Chapters 6 to 10 and takes up half of the overall text: the molluscan analysis of tufa deposits; overbank alluvium; colluvium, scree and cave deposits; blown sand and associated contexts; freshwater deposits (lakes, rivers and streams).

The final Chapter (Epilogue: future directions) considers the progress and limitations of subfossil molluscan analysis since 1972. There has been particular progress in the examination of non-archaeological deposits and sediments, which were mentioned by Evans as worthy of future study. Tufa deposits, for example, have provided detailed Holocene environmental sequences for areas where pollen-bearing deposits are rare or lacking and have also proved important archaeologically, either because of their direct relationship with buried sites or in contributing to the debate about the nature of Mesolithic woodland clearance. On the other hand, assemblages recovered from buried soil surfaces have clearly been demonstrated to vary laterally and, together with recent studies showing small-scale spatial variation of molluscan faunas, this cautions against simple extrapolation to the wider landscape. The interpretation of assemblages from archaeological sites is still very general in

nature, and in particular it has not been possible to distinguish between different grassland types as Evans (1972) hoped that we might. The book ends with a plea for closer cooperation between researchers working on modern and subfossil molluscan assemblages.

The text is well-written and coherently presented, the illustrations are clear, and each chapter is usefully concluded with a summary of its content. This book should be on the shelf of every archaeomalacologist studying land and freshwater molluscs, both because it brings the subject up to date and also presents a wider contextual approach to European non-marine molluscan assemblages. But perhaps the greatest asset of the book will prove to be its several appendices, which provide a ready reference for (1) habitat classification and ecological groups [of species]; (2) notes on British species ecology and identification: freshwater and brackish species; (3) habitat preferences of the Sphaeriidae in Switzerland [of particular interest to workers on *Pisidium* spp.]; and (4) notes on British species ecology and identification: terrestrial species. (JRS)

Reference

Evans, J.G., 1972. *Land snails in archaeology*. London and New York, Academic Press. (International Series of Monographs on Science in Archaeology.) 436 pp.

Experiments on the manufacture of shell ornaments

Two papers concerning the manufacture of prehistoric shell beads and pendants were presented at the **2nd International Congress of Experimental Archaeology**, held at Ronda, Málaga, Spain, on 26-28 November 2008. The authors of these papers have kindly provided abstracts of their presentations:

Paulette Pauc

Complément d'expérimentation de fabrication d'éléments de parure en coquillages marins d'après les sites-ateliers et les sources de matières premières dans l'Aude. [Further experimentation on the manufacture of jewellery elements from marine shells from the workshop sites and sources of primary materials in l'Aude.]

ABSTRACT: The sites in l'Aude, southern France, which have been the subject of an archaeological study, represent an important western Mediterranean group of shell bead workshops dated to the Neolithic and Early Bronze Age. The open-air workshops, which are situated in the eastern part of the Corbières, occur in a domestic context and were principally devoted to the manufacture of disc beads from the shells of *Cerastoderma glaucum* and occasionally other shell beads and pendants. The author began a detailed study of the techniques used in the workshops in this region in 1996, based on experimental work. She is now in the process of correcting and clarifying some previous hypotheses on the basis of the re-examination of material collected from the sites, new observations made on the workshops, and the discovery of several coastal deposits of Quaternary marine shells and local deposits of flint and sandstone used in the manufacturing processes, in association with a new experimental protocol. Further studies have included the effects of prolonged wear on an experimental shell necklace, and the perforation techniques used on shells of *Columbella rustica* and *Trivia europea* [= *Trivia monacha*]. (Transl. JRS)

Bárbara Avezuela, Ignacio Martín Lerma, F.J. Muñoz Ibáñez and Juan Antonio Marín de Espinosa

Los adornos colgantes en el Paleolítico superior: experimentación sobre las perforaciones en moluscos. [Pendants in the Upper Palaeolithic: experimentation on the perforation of shells.]

ABSTRACT: The widespread use of objects as pendants since the beginning of the Upper Palaeolithic is one of the expressions of human symbolic thought. Mollusc shells are among the materials first used for this purpose. An experimental study of the perforations in some of these shell pendants was carried out, combining different techniques and actions and several species. In this way, a list of criteria was prepared which will allow the differentiation of different types of perforations. A study has also been conducted on the traces left by stone tool utilisation during the manufacture of these shell pendants. (Transl. JRS)

Conference reports

ICAZ Archaeomalacology Working Group Meeting, Santander, February 2008

The 2nd Meeting of the Archaeomalacology Working Group was held at the University of Cantabria, Santander, Spain, on 19-22 February 2008. Thirty-two papers and 27 posters were presented by participants from 13 different countries and described research carried out in 18. A broad range of topics was represented, including radiocarbon dating, shell beads and ornaments, shell middens, molluscs as food, stable isotopes of land snails, environmental reconstructions, purple dye production, symbolic uses of shells, and ethnographic studies. The number of advanced graduate students who attended this meeting reflected the growing interest in archaeomalacology and its development as a major subfield of archaeozoology.

A report of this meeting and abstracts of the presentations (available as a pdf file) can be accessed at http://triton.anu.edu.au/santander_meeting.htm.

Shell Energy: Prehistoric Coastal Resource Strategies, Dakar, April 2008

This was the title of an international colloquium on shell middens held at the Theodore Monod Museum of African Art in Dakar, Senegal, on 8-12 April 2008. The meeting was attended by 50 participants representing 22 countries and all the continents except Antarctica. Twenty-six papers were presented, spanning the Pleistocene to the present, and describing aspects of shell midden research in North and South America and the Caribbean; east, west and south Africa; oceanic islands; Japan and Korea; and western Europe.

A brief report and abstracts of the presentations can be found at http://triton.anu.edu.au/Senegal_08.htm.

Still to come:

Beads and Personal Ornaments in the Ancient Near East: Technologies, Styles, Social Significance

This is the title of a workshop that has been accepted as part of the **7th International Congress on the Archaeology of the Ancient Near East (ICAANE)** to be held on 12-17 April 2010 in London, UK. Workshop themes, among others, will include: the beginnings and development of bone and shell bead technologies and their evolutionary significance; diversity in ornament assemblages in later complex societies in the Near East; understanding contexts of manufacture (e.g. workshops) and contexts of use (e.g. burials) in exploring ancient ornaments; symbolic aspects of ornaments and materials. Papers from this workshop will be published as a separate volume.

The submission date for papers was 15 November 2008, but further information can be obtained from Katherine I. (Karen) Wright, Institute of Archaeology, University College London, 31-34 Gordon Square, London WC1H 0PY, UK, email: ki.wright@btopenworld.com.
