

THE ARCHAEO+MALACOLOGY GROUP NEWSLETTER

Issue Number 8, September 2005

Coordinator: Janet Ridout Sharpe, BSc ARCS
66 Radnor Road, Wallingford, Oxfordshire OX10 0PH, UK
Email: Janet_Sharpe@beeb.net

Editorial

This issue of the AMG Newsletter contains the usual mixture of articles on freshwater and land – but very little this time on marine – molluscs from an archaeological perspective. There are two articles on freshwater mussels in Israel, one on the identification and distribution of edible land snails in Turkey and a brief appreciation of the work of Professor J.G. ‘Snails’ Evans, who sadly passed away earlier this year. Henk Mienis draws our attention to an unusual fake cowry from a grave in Hungary (which hopefully may prompt others to record representations of molluscs in archaeology?), and this issue also contains some requests for information, abstracts of papers and notices of forthcoming conferences.

I would like to thank all the contributors to this newsletter for their support, including those who sent me copies of their publications for abstracting. This is a good way of making your work more widely known, and it also provides a useful source of information for fellow archaeomalacologists. Please continue to submit articles, reports of work in progress ... in fact, anything that might be of interest to others working in this field. Without you, there would be no newsletter!

Once again, thanks are due to Kath Szabo of the ICAZ Archaeomalacology Working Group and to Aydin Orstan for posting this newsletter on their websites: <http://triton.anu.edu.au/> and <http://home.earthlink.net/~aydinslibrary/AMGnews.htm>, respectively. The next issue, number 9, will appear at the end of March 2006. (JRS)

Note on some freshwater molluscs from a 3000 BP site near Akhziv, Israel

Henk K. Mienis

National Mollusc Collections at the Dept. Evolution, Systematics & Ecology, Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel, and
The Zoological Museum, Tel Aviv University, IL-69978 Tel Aviv, Israel
Email: mienis@netzer.org.il

The well-known geologist Ze'ev Lewy discovered in the early eighties an elevated terrace near the ancient harbour of Akhziv, Israel (I.G. 159.6/271.9), which contained a rich accumulation of molluscs (Lewy *et al.*, 1986a). This site was initially considered to be of post-Roman age (Lewy *et al.*, 1986a), but the date was changed to 3000 BP in an unpublished hand-out by the same authors (Lewy *et al.*, 1986b), based on carbon dating of some marine molluscs (*Buccinulum corneum* and *Cerastoderma glaucum*) among the material. Interestingly, dating carried out on a freshwater bivalve resulted in an age twice as old, i.e. 6000 BP, clearly showing the confusing effects of the presence of dead carbon in freshwater (see also Mienis, 2004).

This 3000-year old site is situated in the vicinity of the estuary of Nahal Keziv, a stream which now carries water only during the rainy season. It was interesting to see that the site contained large numbers of *Melanopsis buccinoidea* (Olivier, 1801), *Melanoides tuberculatus* (Müller, 1774) and a *Unio* species. Of the latter, articulated specimens were also found (Lewy *et al.*, 1986a: fig. 4).

My friend and colleague Reuven Ortal managed to obtain for me a small part of the original material in order to verify the identity of the freshwater bivalve. To my surprise, this sample contained five species of freshwater molluscs: the gastropods *Melanoides tuberculatus*, *Melanopsis praemorsa* (Linnaeus, 1758), *Melanopsis lampra* Bourguignat, 1884 and *Cleopatra bulimoides syriaca* Pallary, 1929 and the unionid bivalve *Potomida littoralis delesserti* (Bourguignat, 1852). This combination of species points to the presence of a perennial stream in the vicinity of the site. In other words, Nahal Keziv was a river carrying water the whole year round some 3000 years ago.

Melanopsis tuberculatus and the smooth *Melanopsis praemorsa* are still commonly encountered in large parts of Israel. *Melanopsis lampra* is confined to a few coastal streams (for example Nahal Na'aman and Nahal Tanninim). The local subspecies of an African species, *Cleopatra bulimoides syriaca*, disappeared some 50 years ago from the fauna of Israel due to pollution, while the unionid bivalve *Potomida littoralis delesserti* most probably disappeared from the coastal rivers about 10-15 years ago.

The study of just this small sample of freshwater molluscs from the site near Akhziv has allowed us to conclude that the hydrological and ecological conditions of the Nahal Keziv were quite different some 3000 years ago. At that time it was still a perennial river containing at least five species of freshwater molluscs. Today springs along this stream still harbour *Melanopsis buccinoidea* and occasionally a pulmonate snail; however, the present estuary of Nahal Keziv does not contain a single living freshwater mollusc.

Acknowledgements

I would like to thank Dr Ze'ev Lewy (Geological Survey of Israel) and Dr Reuven Ortal (Israel Nature Reserves and National Parks Protection Authority) for enabling me to study a part of the shell material from Akhziv. The studied specimens will be permanently lodged in the archaeomalacological collection of the National Mollusc Collection at the Zoological Museum, Tel Aviv University.

References

- Lewy, Z., Neev, D. and Prausnitz, M.W., 1986a. Late Holocene tectonic movements at Akhziv, Mediterranean coastline of northern Israel. *Quaternary Research*, 25: 177-188.
- Lewy, Z., Neev, D. and Prausnitz, M.W., 1986b. Revised timing of the "Late Holocene tectonic movements at Akhziv, Mediterranean coastline of northern Israel". Unpublished. 1 p.
- Mienis, H.K., 2004. Problems with dating freshwater snails from extinct populations in Israel. *Ellipsaria*, 6 (2): 12-13.

Nile mussels in the kitchen of the Monastery of Martyrius, Judean Desert

Henk K. Mienis

National Mollusc Collections at the Dept. Evolution, Systematics & Ecology, Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel, and

The Zoological Museum, Tel Aviv University, IL-69978 Tel Aviv, Israel

Email: mienis@netzer.org.il

During the construction of the new town of Ma'ale Adummim in the Judean Desert, east of Jerusalem, the builders stumbled upon the remains of Khirbet al Murassas on a hill in the centre of the town. An excavation carried out during 1982-1985 by Yitzhak Magen, the archaeological staff officer for Judaea and Samaria, showed that the ruins were in fact those of the Monastery of Martyrius.

The Monastery of Martyrius was one of the numerous monasteries, housing hundreds of monks, which were built in the Judaeen Desert during the Byzantine period (324-640 CE). It was named after Martyrius, a monk from Cappadocia, Turkey, who lived initially as a hermit in a cave not far from the spot where he started to build a very small cenobitic monastery that included only a small church and his cave. The archimandrite Paulus expanded the monastery, which reached its final form and size in 482 CE after the appointment of Martyrius as Patriarch of Jerusalem in 478 CE. It became the principle monastic centre in the Judaeen Desert and one of the most luxurious of its type. It was damaged during the Persian invasion of 614 and was abandoned after the Arab conquest in the mid-7th century.

The excavation of the site revealed that the dining room (refectory) measured 31 x 25 m, while the food was prepared in a kitchen of similarly impressive size: 21 x 6 m. The floors of all the rooms were covered with splendid mosaics, most of which were found to be intact during the excavation (Magen and Hizmi, 1985; Magen and Talgam, 1990; Magen, 1993a, 1993b). Even the kitchen was paved with mosaics, while the food was prepared on marble tables. Among the numerous utensils found in the kitchen were hundreds of ceramic vessels, lots of metal tableware, grinding utensils, cooking pots and many wine cups.

Most interesting was the discovery of numerous valves of a freshwater mussel among the food remains in the kitchen. From a recent, personal inspection of these shells it appears that they all represent *Chambardia rubens arcuata* (Cailliaud, 1823), the well-known large freshwater mussel of the river Nile. These mussels were imported from Egypt to numerous places throughout the Levant from as early as the Natufian to deep into the Arabic period (Reese *et al.*, 1986, and numerous more recent publications dealing with archaeomalacological finds made throughout the Levant in general and in Israel in particular).

In most cases we do not know why these shells were so popular among the people in the Levant over such a long time. However, I think that the mussels from the Monastery of Martyrius provide additional proof that they served most probably as an exquisite food item. The find of nine matching pairs of valves of *Chambardia rubens arcuata* in a Late Chalcolithic to Early Bronze I jar, in a boat sunken off the coast of Megadim, northern Atlit Bay, Israel (Sharvit *et al.*, 2002), also forms in my opinion evidence that living or preserved mussels were shipped from Egypt to the Levant for human consumption. However, I do not rule out the possibility that the empty valves, with their beautiful layer of mother-of-pearl, were exploited for various other purposes.

It would be interesting to know whether there are any written records about imports such as the Nile mussels from Egypt during the Byzantine period.

References

- Magen, Y., 1993a.** The Monastery of Martyrius at Ma'ale Adummim. In: Tsafir, Y. (ed.), *Ancient churches revealed*, 9-15. Jerusalem, Israel Exploration Society.
- Magen, Y., 1993b.** The Monastery of Martyrius at Ma'ale Adummim. *Guides to Antiquity Sites*, 2: 72 pp. Jerusalem, Israel Antiquities Authority.
- Magen, Y. and Hizmi, H., 1985.** The Monastery of St. Martyrius at Ma'ale Adummim. *Qadmoniot*, 18: 62-92. (In Hebrew.)
- Magen, Y. and Talgam, R., 1990.** The Monastery of Martyrius at Ma'ale Adummim (Khirbet el-Murassas) and its mosaics. In: Bottini, G., Di Segini, L. and Alliata, E. (eds.), *Christian archaeology in the Holy Land: new discoveries. Studium Biblicum Franciscanum*, 36: 91-152.
- Reese, D.S., Mienis, H.K. and Woodward, F.R., 1986.** On the trade of shells and fish from the Nile River. *Bulletin of the American Schools of Oriental Research*, 264: 79-84.
- Sharvit, J., Galili, E., Rosen, B. and van den Brink, E.C.M., 2002.** Predynastic maritime traffic along the Carmel coast of Israel: a submerged find from North Atlit Bay. In: van den Brink, E.C.M. and Yannai, E. (eds.), *In quest of ancient settlements and landscapes*, 159-166. Tel Aviv University, Ramot Publishing.

Edible land snails of Turkey

Burçin Aşkım Gümüş, who has previously contributed to this newsletter on the subject of Turkish land snails, and her colleagues from the Süleyman Demirel University at Isparta have recently published a paper on the edible snails of Turkey. Although this paper describes living species and their geographical distribution and habitats, with a view to the economic exploitation of these snails for food, the descriptions of the shells and the key provided for their identification will be of interest to archaeomalacologists working in this area.

Considerable interest has been expressed recently in the role of land snails in the prehistoric diet in the Mediterranean region (see previous issues of this newsletter). As this paper states, snail meat is rich in minerals and essential amino acids and fatty acids, and it has a relatively high omega-3 fatty acid content compared with other meats; in Crete, snail meat has been associated with longevity and a lower incidence of cancer. There can be no doubt that snails were consumed in antiquity, but which species were eaten?

Seven species of edible snails with economic potential have now been determined in Turkey, with the notable absence of *Helix pomatia* Linnaeus, 1758. These species are described and illustrated in this paper and their present distribution and habitats are given as follows:

(1) *Theba pisana* (Muller, 1774) is found in the Mediterranean fringe of Turkey, where it occurs in dunes and xerothermic and exposed places close to the sea. The animals cluster on vegetation from which they are easily harvested.

(2) *Eobania vermiculata* (Muller, 1774) occurs in all coastal areas and is synanthropic in fields, open country, gardens and vineyards. It climbs up trees and bushes to escape the heat of the day.

(3) *Cryptomphalus aspersus* (Muller, 1774) [= *Helix aspersa*] is not generally abundant in Turkey in areas away from the sea, except in parts of Anatolia where it occurs in cultivated land. This is another synanthropic species which occurs in low altitude gardens and parks with plenty of shade.

(4) *Cantareus apertus* (Born, 1778) [= *Helix aperta*] is relatively uncommon and is also synanthropic. It occurs in vineyards, olive orchards and macchia in Mediterranean coastal areas.

(5) *Helix asemnis* Bourguignat, 1860 in contrast is widely distributed in southern Anatolia from the Taurus Mountains to the Hatay region, and it occurs in all habitats including the coast. This species is restricted to Turkey and Syria.

(6) *Helix cincta* Muller, 1774, subspecies *anatolica*, occurs throughout southwestern Anatolia in undisturbed habitats where it is the second most frequent species after *Helix lucorum*. It is found in low and humid parts of hilly areas in the Marmara, Aegean, Mediterranean and western Black Sea regions.

(7) *Helix lucorum* Linnaeus, 1758 is present throughout Anatolia and is especially abundant in humid coastal areas in the north; it is also found in European Turkey. It occurs in damp riverside grasslands, moist forests at moderate altitudes, gardens and orchards.

Key to the edible land snails of Turkey

(reproduced with permission)

- | | |
|--|----------------------------|
| 1 Shell small (diam. <20 mm), white to light brown, narrow umbilicus..... | <i>Theba pisana</i> |
| -Shell large (diam. >25 mm), darker, no umbilicus..... | 2 |
| 2 Spiral low, 5-6 whorls, mouth compressed, edges thick and reflected..... | <i>Eobania vermiculata</i> |
| -Spiral spherical to conical, 4-5 whorls, only the columellar lip reflected..... | 3 |
| 3 Shell thin and weak, smaller (diam. = 23-39 mm)..... | 4 |

- Shell thick, larger (diam. =35-55 mm).....5
- 4 Spiral conical, banded.....*Cryptomphalus aspersus*
- Spiral rounded, not banded.....*Cantareus apertus*
- 5 Largest diameter >45 mm, dark brown with whitish peripheral band.....*Helix lucorum*
- Largest diameter <45 mm, lighter with brown peripheral band.....6
- 6 Last turn regular with broad bands, peristome high (=1/2 h) and whitish.....*Helix asemnis*
- Last turn compressed with thin bands, peristome shorter and brown.....*Helix cincta*

It is considered that most of the records of *Helix pomatia* in Turkey are attributable to *Helix lucorum*. This is a very variable species which has been given numerous synonyms over the years. In Turkey the following synonyms have been recognised: *castanea* Olivier, 1801; *taurica* Krynicki, 1833; *radiosa* Ziegler, 1837; *socia* Pfeiffer, 1853; *onixiomica* Bourguignat, 1860; *mahometana* Bourguignat, 1860; *euphratica* Martens, 1874; *schahbulakensis* Bourguignat, 1876; *martensi* Boettger, 1883; *dorylaenis* Naegele, 1903; *berytensis* Kobelt, 1903; *angustefasciata* Kobelt, 1904; *halepensis* Kobelt, 1905; *haussknechti* Kobelt, 1905; *hueti* Kobelt, 1905; *loebbeckeii* Kobelt, 1905; *quinguefasciata* Kobelt, 1905; *ancyrensis* Kobelt, 1906; *byzantina* Kobelt, 1906; *minima* Kobelt, 1906; and *trapezuntensis* Forcart, 1963. *Helix pomatia* is restricted to central and western Europe: it is absent in the east Balkan Peninsula and does not occur near the Turkish border.

Not all large land snails are considered to be edible: *Helix buchii* Dubois, 1853, the largest land snail in Turkey, is not consumed.

Reference

Yildirim, M.Z., Kebapci, U. and Gümüş, B.A., 2004. Edible snails (terrestrial) of Turkey. *Turkish Journal of Zoology*, 28: 329-335.

John Evans (1941-2005)

It seems appropriate here to mark the passing of one of the great names in archaeomalacology: Professor John Gwynne Evans, author of that seminal work *Land snails in archaeology*, published by Seminar Press in 1972 and never surpassed. John's book became the 'bible' for a whole generation of archaeomalacologists in the UK.

The son of Sir David Evans, director of the London School of Hygiene and Tropical Medicine, John took his first degree in zoology at Reading University and then moved to the London University Institute of Archaeology to undertake a PhD on land molluscs, which earned him the epithet of 'Snails' Evans. He was truly a pioneer in this field and he studied the snail assemblages from numerous sites throughout the British Isles, concentrating specifically on the Neolithic and the advent of farming.

In 1970 he was appointed lecturer in environmental archaeology at Cardiff University and he remained there, becoming reader in 1982 and professor in 1994, until his retirement in 2002. After *Land snails*, which remains the definitive textbook, he wrote or co-authored several popular books on environmental archaeology, including *The environment of early man in the British Isles* (1975), *An introduction to environmental archaeology* (1978) and, with Terry O'Connor, *Environmental archaeology: principles and methods* (1999).

John changed radically our understanding of the vegetational and land-use history of the chalklands of southern and eastern Britain by his detailed studies of the snail shells preserved in buried soils: he was able to prove that the chalk uplands were largely wooded until early farmers felled the trees to create farmland. With the soil specialist Susan Limbrey he studied the alluvial

sequences around Avebury, where the land and riverine snail faunas provided the ecological context for the processes of soil development, erosion and the build-up of flood plains.

Towards the end of his life John developed an interest in archaeological theory and his last book, *Environmental archaeology and the social order* (2003) presented some original, some say controversial, ideas. His premature passing at the age of 63 is a sad loss.

Some brief notes on imitation cowries found at archaeological sites

Henk K. Mienis

National Mollusc Collections at the Dept. Evolution, Systematics & Ecology, Hebrew University of Jerusalem,
IL-91904 Jerusalem, Israel, and

The Zoological Museum, Tel Aviv University, IL-69978 Tel Aviv, Israel

Email: mienis@netzer.org.il

Since the dawn of mankind cowries have been very popular among people, not just because of their pure beauty in form and colour. In the past cowries have been used as currency (especially *Monetaria moneta* and *Monetaria anuulus*), royal symbols (for example, *Lyncina aurantium* in the Fiji Islands and cowries in general in Zaire) and personal ornaments (in the form of cowry beads and pendants); they have functioned as markers of warrior status (Southeast Asia), have been used in rituals (Nigeria) and were considered fertility symbols (almost everywhere) (Schilder, 1952; Safer and Gill, 1982). For these reasons alone, cowries are often encountered during archaeological excavations, even if these digs are carried out far inland or outside the natural range of distribution of the family Cypraeidae.

Cowries have been so popular that from time to time imitations have been made using various materials, and now and then these fake cowries are found during excavations.

During the Zhou dynasty in China, which lasted from 1027 to 221 BC, various forms of imitation cowries were produced. Initially these were carved from bone, shell or stone; at a later stage they were made from clay and bronze with the help of moulds. The latter are now considered one of the oldest forerunners of metal currency (Schilder, 1952).

It is not clear whether these mock cowries were produced because of a shortage of real ones. Excavations in Elat carried out by Uzi Avner have produced a fake cowry carved from limestone (D. Bar-Yosef Mayer, pers. com.), in spite of the fact that at least 26 different species of cowries would have been locally available (Heiman, 2002).

Less known has remained the find of a beautiful glass cowry from the grave of a female, most probably of noble descent, found near Hajdúböszörmény, Hungary (Kovacs, 2001; this author refers to a second article, "A glass cowry imitation from the Sarmatian period in Hungary", *Journal of Glass Studies*, 43 (in print), in which he describes this unique find. Unfortunately I have been unable to trace this reference since the journal in question is not available in Israel for consultation). This blown glass cowry, which measures 55 x 36 x 31 mm, resembles in form one of the *Zoila* species which occur in Australian waters, although the artisan who produced this glass cowry would of course have been unaware of the existence of such forms. However, the colour pattern shows a unique design which is not known to occur in any real cowry (Kovacs, 2001: 286, fig. 2). It served most probably as a pendant or large bead because the anterior and posterior ends show a perfect round hole indicating that it could have been strung. The grave is dated to the Sarmatian period (4th to 1st centuries BC) and the glass cowry has been tentatively placed in the earlier part of that period (4th to 3rd centuries BC). I am not aware of any similar archaeological find of a glass cowry.

I can not rule out the possibility that somewhere imitation cowries were also carved from wood, but so far I have not come across any such records. However, I hope that this short note

will inspire others to watch out for imitation cowries. I would appreciate receiving any information concerning such interesting items.

Acknowledgement

I would like to thank Dr Daniella Bar-Yosef Mayer (Haifa University) for the unpublished information concerning the carved cowry from Elat.

References

- Heiman, E.L., 2002.** *Cowries of East Sinai*. Jerusalem, Keterpress Enterprises (for E.L. Heiman). 208 pp.
- Kovacs, L., 2001.** Sarmatenzeitliche Glaskauri aus der Gemarkung von Hajdúböszörmény. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 52: 283-302.
- Safer, J.F. and Gill, F.M., 1982.** *Spirals from the sea: an anthropological look at shells*. New York, Clarkson N. Potter Inc. 192 pp.
- Schilder, M., 1952.** Die Kaurischnecke. *Neue Brehmbücherei*, 46: 1-48. Leipzig.
-

Requests for information

From Greg Campbell (email: g.v.campbell@btinternet.com)

I am a Canadian archaeomalacologist working in England and I have done some work on a Roman layer of sea urchins (echinoids) found in Brittany (France). I have developed methods for identifying species based on the very small pieces found, and I have redeveloped methods for sizing urchins based on these small fragments: each type has a different preferred sea temperature and is only ready to eat in a particular season... There may have been regular use of urchins in the Atlantic Mesolithic... I would be very grateful for any references to reports on edible sea urchins in prehistory.

From Carole Biggam (email: C.Biggam@englang.arts.gla.ac.uk)

I'm writing a paper on the Early Medieval vocabulary for dyes, and am currently working on whelk dyes. In other parts of the world, including Ireland, there are piles of broken-open dog whelk shells indicating whelk dyeing activities [such as] Inishkea North in Ireland which is very convincing as a purple-dyeing workshop. I can find no trace of any such piles of *Nucella lapillus* shells around the British coasts, and I would like to be able to ask a specialist whether this impression is correct.

Abstracts of publications received

Hausdorf, B., Gümüş B.A. and Yildirim, M.Z., 2004. Two new *Metafruticicola* species from the Taurus Mountains in Turkey (Gastropoda: Hygromiidae). *Archiv für Molluskenkunde*, 133 (1-2): 167-171.

ABSTRACT: Two new species of *Metafruticicola*, an eastern Mediterranean hygromiid genus that lacks a dart apparatus, are described from alpine altitudes (2350-2550 m) in the Taurus Mountains in the province of Isparta in southwestern Turkey. *Metafruticicola dedegoelensis* n. sp., mean diameter 14.8 mm, is characterised by a disk-like, irregularly ribbed shell with a blunt edge at the periphery and a wide umbilicus. *Metafruticicola oerstani* n. sp., mean diameter 13.5 mm, has a smooth disk-like shell with very short hairs, a more rounded body whorl and a narrower umbilicus. The latter species is named in honour of Aydin Orstan, who is a contributor to this newsletter. Both species appear to have limited distributions; their flattened aspect is considered to be an adaptation to hiding in rock crevices.

Mienis, H.K., 2004. 13. Molluscs from the excavation of Horvat Raqit. In: Dar, S. (ed.), Raqit: Marinus' estate on the Carmel, Israel. *BAR International Series*, 1300: 309-311.

ABSTRACT: The excavation of the remains of a Late Roman-Byzantine estate at Horvat Raqit on Mount Carmel yielded 186 shells and fragments which were identified as belonging to 17 different species. Seven of these were local land snails which are still abundant in the vicinity; many showed signs of predation by small mammals and may not be contemporary. However, 14 opercula of *Pomatias olivieri* had been holed and may have served as beads [see *Archaeo+Malacology Group Newsletter*, No. 6 (1974): 3]. One shell (*Actaeonella* sp.) was a fossil marine gastropod, probably from a local Cretaceous outcrop, and nine species were marine. Of these, *Glycymeris insubrica* accounted for 86 of 97 shells/fragments. Although some of these were holed at the umbo, only one had a definite man-made hole and together with the other marine species the shells are worn and were probably used for mortar production. The single exception was an unworn fragment of *Charonia tritonis variegata* which may have come from a complete specimen.

Mienis, H.K., 2005. Shells from the emergency excavation in the Begin-Quarter of Ramla, Israel. *Triton*, No. 11: 28-30.

ABSTRACT: Ninety-one shells representing 12 species were recovered from an emergency excavation in Ramla in advance of redevelopment. All the finds from the site dated to the Early Islamic period (mid 8th to late 9th centuries). The shells came from five different zoogeographic areas: the vicinity of Ramla (local land snails, *Helix engaddensis* (n=2)); coastal rivers of the Levant (*Potomida littoralis delesserti* (n=1)); the river Nile (*Chambardia rubens arcuata* (n=8)); the Mediterranean Sea (*Neverita josephinia* (n=1), *Hexaplex trunculus* (n=1), *Stramonita haematosma* (n=1), *Glycymeris glycymeris pilosa* (n=2), *Glycymeris insubrica* (n=49), *Acanthocardia tuberculata* (n=4), *Donax trunculus* (n=9)); and the Red Sea/Indian Ocean (*Monetaria moneta* (n=1), *Pinctada margaritifera* (n=12)). The cowry and some of the bivalves (*Glycymeris* and *Acanthocardia*) were holed and may have formed beads and pendants. The fresh state of the *Donax* shells suggests that they were collected as food. The use of the pearl mussel shells could not be determined.

Mienis, H.K. and Hadas, G., 2005. Archaeomalacological finds in the vicinity of 'En Gedi 4. Molluscs in an oven dating to the 1st century CE. *Triton*, No. 11: 31.

ABSTRACT: The excavation of some dome-shaped ovens dating to the Roman period in the 'En Gedi oasis, Israel, revealed the presence of large numbers of ferussaciid snails, *Calaxis hierosolymarum* and *Calaxis rothi*, in one which was located at a depth of 1.5 m. The ovens had been sealed by a sterile layer of sand and gravel after the destruction of the ancient settlement by fire. Although the subterranean habit of *Calaxis* spp. suggests that the snails may not be contemporary with the oven, it is noteworthy that they were only found in one of the eight ovens excavated. The two species are illustrated to facilitate their identification.

Pauc, P., 2004. Breve typologie de l'outillage lithique inherent a la fabrication de parures protohistoriques en coquillages et les sources de matieres. [Brief typology of the stone tools used in the manufacture of protohistoric shell jewellery and the sources of material.] *Bulletin de la Societe d'Etudes Scientifiques de l'Aude*, 104: 69-76.

ABSTRACT: The manufacture of beads from subfossil marine shells in the department of Aude, southern France, spanned the late Neolithic and Early Bronze Age. This industry is characterised by shell disk beads made from *Cerastoderma glaucum*. The stone tools used in the manufacture of these beads are described with reference to the sources of the materials used. Most of the tools

found in the shell jewellery workshops are pointed flint ‘perforators’, but sandstone grinding stones and grooved polishers in siliceous sandstone are also represented. The geology of these tools is discussed, a brief typology of tool types is presented, and comparisons are made with similar tool assemblages from other parts of the world.

Reese, D.S., 2005. Whale bones and shell purple-dye at Motya (western Sicily, Italy). *Oxford Journal of Archaeology*, 24 (2): 107-114.

ABSTRACT: The 1970 excavations at the Phoenician colony (6th to 5th centuries BC) of Motya in western Sicily produced an interesting assemblage of faunal remains which included four sperm whale (*Physeter macrocephalus*) vertebrae and over 70 crushed *Hexaplex trunculus* shells, together with stone hammers. It was concluded that the whale vertebrae served as crushing platforms for breaking the shells during the initial stage of purple dye production. The archaeological evidence for whaling in the Mediterranean is discussed, and the archaeology of the purple dye industry in Italy is briefly reviewed.

Reese, D.S., 2005. Chapter 6: The Catalhoyuk shells. In: Hodder, I. (ed.), *Inhabiting Catalhoyuk: reports from the 1995-99 seasons*. Cambridge, McDonald Institute for Archaeological Research (McDonald Institute Monographs). pp. 123-128.

ABSTRACT: All the shells collected from James Mellaart’s 1961-1965 excavations, the 355 priority units from the 1995-1999 excavations, and worked freshwater shells and marine shells from surface scrapings and other excavations at Catalhoyuk were included in this study. The priority units produced mainly freshwater shells, mostly *Unio* sp. which probably represent food items, although some were worked and some contained traces of pigment, and 100 shells of *Theodoxus jordani*, most of which were holed and are considered to be beads. Most of Mellaart’s marine shells came from the Mediterranean and the majority consisted of dentalia and *Nassarius gibbosula* [= *Arcularia gibbosula*] beads; also represented were occasional cones, cowries and a few other species which also appear to have been used as ornaments. Red Sea shells were represented by four pendants made from *Pinctada margaritifera* and two holed *Nerita* sp. Land snails were relatively uncommon and mostly very small; they were probably not used as a food source. Just one fossil *Conus/Strombus* was present, and it is considered that Mellaart’s description of ‘fossil oyster shells’ may refer to recent *Spondylus gaederopus* [= *Gaederopus gaederopus*].

Forthcoming conferences

The XV UISPP Congress, Lisbon, September 2006

The next UISPP Congress will be held in Lisbon from 4-9 September 2006. Nearly 100 sessions and workshops have been proposed for this Congress and these include at least four sessions of interest to archaeomalacologists: ‘Bioarchaeology from the midst of shells’ (organised by Sheila Mendonca, Eugenia Cunha and Sabine Eggers; this session will focus on Mesolithic shell middens of Portugal and shellmounds from Brazil to illustrate bioarchaeological differences between fluvial and maritime settlements); ‘Landsnails as food: past and present’ (organised by David Lubell); ‘Coastal geoarchaeology: the research of shellmounds’ (organised by Marisa Coutinho Afonso and Geoff Bailey; this will look at shellmound research in Brazil and Northwest Europe); and ‘Harvesting the sea: current perspectives on hunter-gatherer coastal adaptations’ (organised by Nuno Bicho and Jonathan Haws). Abstracts for these sessions can be found on the UISPP website at <http://www.uispp.ipt.pt/en/colloquia.html>.

ICAZ 2006, Mexico City, August 2006

An archaeomalacology session is being organised by Canan Cakirlar and Victoria Stosel for the forthcoming ICAZ International Conference in Mexico City, 23-28 August 2006, with the title: 'Shells of Mollusca: environmental adaptations, ideological expressions'. It is hoped that papers for this session will focus on a broad range of topics including global palaeoecological trends, aquatic adaptations, human impact on the environment, continuity and discontinuity in cultural traditions, and trade relationships. The emphasis will be on regional, inter-regional, methodological and environmental problems, rather than specific site reports or purely descriptive presentations. For more information, see <http://triton.anu.edu.au/icaz2006.htm>

Another session at this meeting will concern the use of animals in complex civilizations ('Animals and complexity: archaeozoology of complex society in the New and Old worlds'). This session is being organized by Justin Lev-Tov and Susan DeFrance, who hope to include papers dealing with molluscan remains and their implications, and to cover both New and Old World perspectives. They already have a contribution on the use of shellfish by Andean societies but would also like some contributions from Old World researchers. If anyone is interested in giving a paper for this session, please contact Justin at jlevtov@uab.edu.
