

Wildlife Trust have all but cured the disturbance menace. The western side borders on an industrial estate where there may be more species associated with urban disturbance. It is easily accessible from Lincoln and we can use the Lidl car park (Lincolnshire Wildlife Trust has an arrangement with them). The voluntary warden should be able to be with us on the day.

If time permits we will be able to visit Whisby Nature Park [grid ref. SK 915 660] in the afternoon. This is an old gravel working on the west of Lincoln, now managed by LVWT. It has some fields with orchids, and lots of water.

The soil is, as would be expected, sandy. Snails are more abundant there than slugs. The warden will be able to direct us to 'hot spots' and most records should be new for the site.

Bring wellingtons and water sampling equipment.

FIELD - Saturday 8 July
Stanford reservoir, Leicestershire.
Leader: James Potter
(0116 279 9029) (home)
jamespotter@operamail.com

This meeting at Stanford Reservoir is to survey land and freshwater molluscs. The reservoir was built 80 years ago and is now operated by Severn Trent Water Ltd, and the surrounding area is managed by Northamptonshire Wildlife Trust as a bird reserve. Although it has had a continuous bird ringing programme in place for 30 years, it has never been subject to a survey of its mollusc populations. The site offers a range of habitats including rough grassland, pasture, scrub and small trees, and also a range of freshwater aquatic environments including the reservoir bordered by reed beds, a settling pond, and various channels of flowing water entering, exiting, and running alongside the reservoir.

Meet in the public car park adjacent to The Shambles public house in Lutterworth (SP 576 844) at 10:30h.

Bring wellingtons and water sampling equipment.

NHM - Saturday 9 September
14:30h in the Demonstration Room.
We welcome as Guest Speaker Ben Rowson from Cardiff on the subject of 'The enigma of the Streptaxidae, a group of tropical

land snails'.

Abstract
In 1890 E.A. Smith was confronted with the shell of an unknown African land snail. Describing it as *Ennea aenigmatica*, he wrote "the orifice of this little snail...it seems impossible to convey with words any adequate idea of it." Our ways with words have not improved since Smith's time, and we are still some way from understanding *aenigmatica* and its many relatives in the Streptaxidae. The hundreds of species in Africa alone show a range of shell form at least as great as any other pulmonate family. As if to add further mystery, it appears they are all predatory, feeding entirely on other snails, and their exotic genitalia systems have to be seen to be believed. Systematic studies of this group, using both old and new techniques, are the basis for my PhD project with Cardiff University and the National Museum of Wales. By September I ought to have results to present - though in some ways, the number of mysteries will only increase.

YCS - Saturday and Sunday 9-10 September
Forest of Bowland.
Contact: David Lindley
(0113 2697047) (home)
david.lindley3@btinternet.com
1km recording in VC64 south of the A65, a very under recorded area on this scale.
Meet at 10:30h at the car park in Slaidburn on both days, grid ref. SD 713523.

FIELD - Saturday 16 September
Wimbledon Common, South London.
Joint meeting with the London Natural History Society.
Leader: June Chatfield
(01420 82214) (home)
Meet in the free car park for Wimbledon Common by the windmill (OS grid ref. TQ 232726) at 10:30h.
We plan to survey the land and fresh water molluscs of the common to be added to the conservation database.

Wimbledon Common was saved from development in the late nineteenth century and is owned and managed by the Wimbledon & Putney Commons Conservators; it is also an SSSI. An excellent book - *Wimbledon*

Common & Putney Heath: A natural history, edited by Tony Drakeford and Una Sutcliffe, was published by the Conservators in 2000. Copies of this at a special price of £15 are obtainable on site from the Warden's office. The Visitor Centre will be open with access to a stereo microscope to examine finds.

Bring: pond gear and leaf-litter sieves, hand lens etc.

Refreshments are available at the Windmill Cafe at lunch time.

Society contacts
Conch Soc: Ron Boyce (0118 935 1413) email:
program@conchsoc.org
447c Wokingham Road, Earley, Reading RG6 7EL
London Natural History Society:
Mick Massey (020 8995 0926)
26 Dukes Avenue, Chiswick, London W4 2AE

FIELD - Saturday 7 October
Bracklesham Bay, West Sussex
Marine/fossil joint meeting with Newbury Geology Group and Kent Geologists' Group.
Low tide 0.2 m is at 17:40 bst
Leader: Adrian Rundle
(020 8878 6645) (home)

YCS - Saturday 14 October
North York Moors.
Contact: David Lindley
(0113 2697047) (home)
david.lindley3@btinternet.com
1km recording.
Meet at 10:30h at the parking area on the A171, grid ref. NZ 945002.

NHM - Saturday 21 October
14:30h in the Demonstration Room.
We welcome as Guest Speaker Geraldine Holyoak from Camborne on the subject of 'Land molluscs of Malta'.

WKSHP - Saturday 25 November
The annual workshop held in Woking offers members the opportunity to receive tuition on identifying difficult groups.
Bookings to Judith Nelson (01483 761210)(home)
Provisional subject: *Pisidium* from samples

NHM - Saturday 9 December
14:30h in the Demonstration Room.
We welcome as Guest Speaker John Llewellyn-Jones from West Mersea on the subject of 'Slugs and snails and ----?'.
23-24
Diary

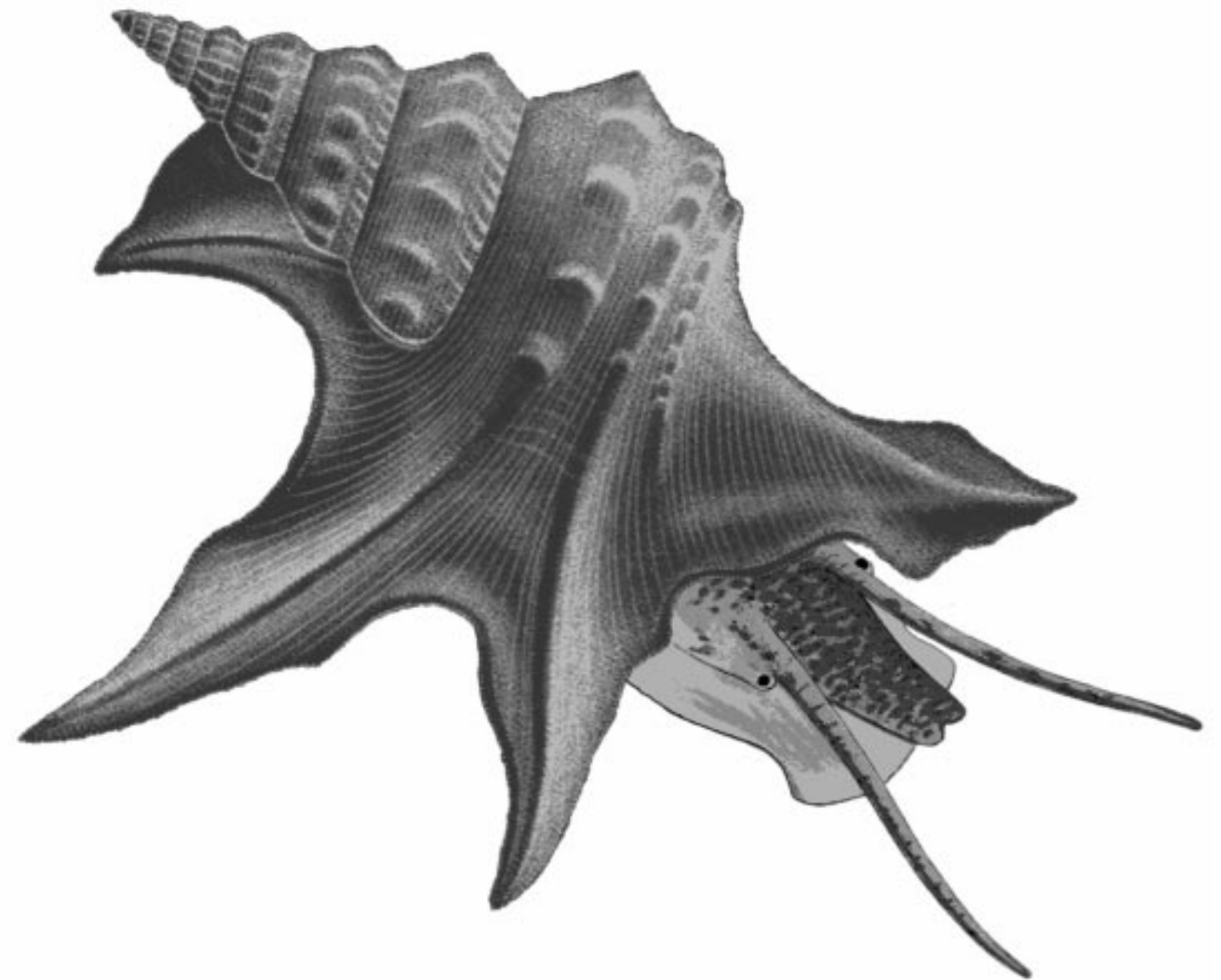
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Mollusc World

ISSUE No.10

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THE MAGAZINE OF THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN & IRELAND

Editorial

In November 2005, Roy Anderson's new checklist of the non-marine Mollusca of Britain & Ireland was published in *Journal of Conchology* 38: 607-638. This welcome list will form the basis for ongoing Society's recording schemes. I therefore request that in future all authors submitting articles to *Mollusc World* follow this nomenclature. We have arrived into the twenty first century!!

This volume contains a substantial article by Bas Payne in which he investigates the effects of collecting dead shells on a Thai beach. Many issues are raised regarding the effects of this type of small-scale collecting, which are insignificant in comparison to the commercial collecting of living material for the shell trade. Bas has requested member's feedback and I also ask that *Mollusc World* be used as a vehicle for debate. However, I have to

say that my call in MW9 for members to give their opinions and to air their views has had no response at all! Recent exchanges of emails amongst Council members have resulted in the opinion that *Mollusc World* should be used for members to give updates of projects they are involved in, rather than appearing as a line or two in annual reports. So.....I'm waiting.....

Ian Killeen

Mollusc World

Mollusc World is published 3 times a year by the Conchological Society of Great Britain & Ireland at the end of March, July and November, and is issued free of charge to members.

We invite all members to contribute to *Mollusc World*. In addition to the traditional articles, field meeting reports, diary of events and so on, we will be including features, profiles, news from recorders, and identification keys. Do not feel that you have to write long or full page articles. We would particularly welcome short pieces, snippets, pictures, observations, new records, book reviews, mollusc recipes, cartoons, requests for information - anything on molluscs! *Mollusc World* will become an important means of staying in touch with the membership and communicating information to the conservation agencies and promoting molluscs to the wider biological community. So, please contribute!

Copy is acceptable in any format - electronic, typed or legible hand-written. When sending copy by email, please ensure that you include *Mollusc World* in the email title and also include a few lines of text in your message as well as an attachment. Unidentified attachments may not be opened! Please do not include diagrams or pictures embedded in the text - send them as separate attachments. To enable the best reproduction and resolution, any original artwork, diagrams, colour prints or slides should also be sent by 'snail' mail. All will be treated with care and returned. At the present time, we are unable to give precise copy deadlines until we are up and running, but contributors should assume that copy date is a minimum of 8 weeks before publication date.

Neither the Hon. Editor nor the Conchological Society of Great Britain & Ireland accept responsibility for any opinions expressed by contributors.

Please send articles to:

Ian Killeen, 53 Charleville Square, Rathfarnham, Dublin 14 Ireland.
Email: iankilleen@eircom.net

Society Notes

Founded in 1876 the Conchological Society of Great Britain & Ireland is one of the oldest existing societies devoted to the study of molluscs. The Society promotes the study of molluscs and their conservation through meetings, publications and distribution recording schemes. The Society publishes *Journal of Conchology* (twice a year) and *Mollusc World* (three times per year).

The Conchological Society of Great Britain & Ireland is Registered Charity No. 208205

The Society's Web Site is at: <http://www.conchsoc.org>

Subscriptions

These cover 1 January to 31 December and are due on 1 January each year:

Ordinary Membership	£33.00
Family/joint membership (open to two people living at the same address)	£35.00
Institutional Membership (GB and Ireland)	£47.00
Institutional Membership (Overseas address)	£50.00
Student (in full-time education)	£15.00

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Sterling cheque drawn on a UK bank and made out to "The Conchological Society" to Honorary Membership Secretary: Mike Weideli, 35 Bartlemy Road, Newbury, Berks., RG14 6LD. Tel: 01635 42190, email: membership@conchsoc.org

Eurocheques are no longer accepted by UK banks.

Sterling direct transfer in favour of "The Conchological Society" to National Westminster Bank plc, Bolton Branch, PO Box 2, 24 Deansgate, Bolton, Lancs., BL1 1BN (IBAN: GB12 NWBK 0130 9906 5238 46, BIC: NWBK GB2L);

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Diary of Meetings - Conchological Society

Programme Secretary: Ron Boyce, 447c Wokingham Road, Earley, Reading, Berkshire RG6 7EL

IMPORTANT: Please remember to inform the leader if you are attending a field meeting. If you are held up in traffic or your public transport is delayed, it may be possible to ring the Programme Secretary on 07941 094395 on the day of the meeting for information on the location of the field site being surveyed.

Indoor meetings at the Natural History Museum will take place in the Palaeontology Demonstration Room at the end of Gallery 30.

Key to meetings:

NHM	= Natural History Museum, London, indoor meeting
FIELD	= Field Meeting at outdoor location
WKSHF	= Workshop on molluscan topics
YCS	= Yorkshire Conch. Soc. events

INDOOR - Saturday 18 March
Perth Museum, Scotland.
Joint meeting with the Royal Entomological Society on invertebrates of temporary ponds.

Contact: Adrian Sumner (01620 894640) (home)

YCS - Saturday 1 April
Derwent Valley SSSIs.
Contact: David Lindley (0113 2697047) (home)
david.lindley3@btinternet.com

Meet at 10:30h at the parking area near bridge at Bubwith, grid ref. SE 706364.

NHM - Saturday 8 April
14:30h in the Demonstration Room.

Annual General Meeting
Presidential Address by Dr Jan Light on the subject of 'The present is the key to the past - an archaeomalacological perspective'.

Abstract
At archaeological sites, concentrations of marine mollusc shells, which are known to be edible species, can often be interpreted with little ambiguity as food refuse. It is a recurring feature that such concentrations may also contain other shells whose condition, even allowing

for the degradational processes which may have affected the deposit, suggests that they were brought to the site in worn condition, or they may have been subjected to man-made modification after collection. *Glycymeris glycymeris* is a species for which worn shells have been reported from archaeological sites throughout the Mediterranean area and the Iberian Peninsula, and occasionally from the British Isles. A high proportion of these shells bear a hole in the umbo; various processes may account for these holes. Using *Glycymeris* as a case study, the importance of considering the biology, ecology and living environment of molluscs whose shells feature archaeologically will be examined.

FIELD - Wednesday -Saturday 26-29 April

Anglesey and the Lleyn Peninsula.
Leader: Tom Clifton (01248 853359) (home) (07767 494355) (mobile)
Clifton@seaspray.fsnet.co.uk

This field meeting is being held primarily to look at several species-rich marine sites on the Isle of Anglesey and the Lleyn Peninsula which have recently produced a number of new records for this sea area; *Brachystomia eulimoides*, *Chrysallida decussata* and *Alvania beanii* to name a few, and *Rissoa lilacina* which is new not only to this sea area but to the Irish Sea as a whole. I am confident that there is more waiting to be found. The group will have a chance to collect species-rich shell sand from several sites and have a session at my home in Benllech to review the material found. I have a microscope but if anyone else can bring one along it will help greatly.

The meeting will also provide a rare opportunity to see the New Zealand oyster *Tiostrea lutaria* introduced by the Ministry of Agriculture and Fisheries some years ago and now living wild and abundantly in many areas in the Menai Straits and south coast of Anglesey.

It will also provide an opportunity to visit a magnificent

marine site at Porth Dinllaen on the Lleyn Peninsula where this uniquely sheltered bay hosts an extensive area of eelgrass.

There will also be two non-marine sites on Anglesey where the group can visit a fresh water lake and the National Nature Reserve at Newborough Warren.

The initial meeting point will be at the car park adjacent to Llyn Rhos-ddu at Newborough Warren, Anglesey at SH 426647 at 10:00h on Wednesday 26 April. From here, the group will reassemble at the Aberffraw Dunes car park at SH 357690 on the A4080, at 13:00h to visit the first of the marine sites. Full details are listed in Issue no. 9 of *Mollusc World*.

YCS - Saturday 7 May
Flamborough. Cliff top recording.
Contact: David Lindley (0113 2697047) (home)
david.lindley3@btinternet.com

Meet at 10:30h at the North Landing car park, grid ref. TA 239720.

FIELD - Saturday 20 May
Suckley Hills, Worcestershire.
Leader: Harry Green (01386 710377) (home) 07778 198476 (mobile)
harrygreen@britishlibrary.net

Meet at SO 731522 on a very minor road, at 10:00h. Follow the A44 for about 10 km west of Worcester City to Knightwick (where there is a bridge over the River Teme). Turn south towards the village of Alfrick. After about 3 km, just before the village, turn right (south) then after about 200m right again (west) and follow the road which rises quite steeply to Crews Hill. The road then descends and after about 500 m turn left and follow the very narrow road for about 500 m to the Grid reference point. Park on the left (east) at the gate into woodland.

The aim of this visit is to explore several woodlands and hopefully some grassland situated on Silurian limestones which cap parts of the West Worcestershire Hills. The amount of ground to be covered depends on the weather and energy of participants! Some searches have been made in the

area, mainly in very dry conditions, and they promise to provide a good range of terrestrial molluscs.

FIELD - Saturday and Sunday 3-4 June

Borders (Roxburghshire). Joint meeting with Scottish Borders Biological Records Centre
Leader: Adrian Sumner (01620 894640) (home)
atsumner@clara.net

This will be a meeting to look for slugs and snails, mainly in woodland sites, in under-recorded areas around the Harestanes Visitor Centre, and to provide an opportunity to learn identification of various species. Sites covered should include Harestanes itself, ancient woodlands in the valley of the Ale Water around Ancrum, Newton St Boswells woods, and possibly some of the Jed Valley woodlands above Jedburgh. Bring suitable clothing for the weather, and stout footwear.

Meet at the Harestanes Visitor Centre, which has ample parking, lunch facilities, and toilets, at 10:00h; we shall return here at lunch time each day. To reach Harestanes (grid reference NT 641244) turn off the A68 eastwards on to the B6400; after less than half-a-mile turn right for the visitor centre.

FIELD - Saturday 24 June:
Lincoln area.

Leader: Chris du Feu (01427 848400) (home)

Meet at 10:30h in Lidl's Car Park facing East [in Outer Circle Road, grid ref. SK 997 726].

The main site is Greetwell Hollow on the edge of Lincoln city itself. It is a patch of limestone with ironstone deposits, parts of which were excavated many years ago. It became derelict in the early 1900s and is now back in the control of nature. It has a stream running through it all the year, there are some calcareous springs, the whole site is about 15 hectares. Some parts are sheltered hollows, some are dry, others damp or with pools. It has been greatly disturbed by human activity, but the Lincolnshire

The SCAN project: 5 years of searching and still going strong!

Recent snail search results show that the 'alien' snail *Hygromia cinctella* is still spreading. Since 2001, when snail search was launched, snail searchers have discovered the snail living in 12 new vice counties. It has now spread as far north as Yorkshire! Since 1950, when the species was 1st spotted in Devon, it has settled in a total of 18 counties throughout the UK. In total, we have received 1,029 snail reports and 94 confirmed 'alien' snail sightings - take a look at the map for yourself. Schools, families and Conchological Society members have all been involved in collecting this information - so many thanks to those of you who helped!



Please keep helping in 2006!

Enclosed you will find a colorful snail guide - please use this leaflet to help promote snail search this summer especially if you live in an area where the 'alien' hasn't been found yet...

Participants can send their results in on-line by visiting SCAN's snail search website www.museumwales.ac.uk/scan

Danielle Cowell
SCAN Project Organiser
Education Department
National Museum & Gallery of Wales
Cathays Park
Cardiff CF10 3NP
Tel: 029 20 573304
www.museumwales.ac.uk/scan
scan@museumwales.ac.uk

Snail jokes

(courtesy of www.manandmollusc.net - an interesting site with loads of other stuff)

- **Why don't they serve escargots at McDonald's restaurants?**
Because at McDonalds, they serve fast food.
(joke by -Tim Pearce-)
- This guy was washing the dishes in his kitchen and he heard a knock at the door. He opened the door and there was nobody there. Just as he was closing it he looked down and saw a snail. "What do you want?" he asked the snail. "Can I have a glass of water please?" replied the snail. "No, clear off!" shouted the guy and he booted the snail down to the bottom of the garden. Two months later he was in the kitchen again and he heard another knock at the door. He opened the door, looked down, and saw the snail again. "What do you want?" he shouted. "Why did you do that?" said the snail.
- Two postal workers had just gotten off their routes for the day when one of the postal workers saw the other step on a snail. "Why did you step on that snail, Tom?!", asked his perplexed coworker. "Cause that darn snail's been following me around work all day!"
- One way to become a shell collector is to take a bag of marbles to the beach. Each time you pick up a shell, drop a marble on the beach, so the waves will cover the marble with sand. Keep doing this until all the marbles are hidden in the beach sand. When you've lost all your marbles, you've become a shell collector!
- **What to snails use to polish their houses?**
They use snail varnish
(joke from Riana Parsons)

Forthcoming meeting

21-23 September 2006
A Joint Scientific Meeting
between

The Malacological Society of London and La Société Française de Malacologie on Island, Littoral and Lake Molluscs : endemism, colonization and invasion

At Centre de Culture Scientifique, Île de Tatihou, St Vaast-la-Hougue, Normandie, France

To receive the first circular please contact one of the Organisers:

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F-35042 RENNES Cedex, France
+(33)02 23 23 50 45
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+44(0)23 92 845808
simon.cragg@port.ac.uk



The fortuitous combination of a request to arrange a field meeting for the Society, and the notification by Tony and Val Marshall of the finding of *Malacolimax tenellus* in leaf litter in their local wood - subsequently backed up with the record complete with photograph - enabled the organisation of a field meeting to Angling Spring Wood near Great Missenden.

Angling Spring Wood SP 8861 0099 is predominantly an old beech wood of 41 acres with some mixed planting, managed until recently by Chiltern District Council and now by local wildlife groups. The soil is mainly clay with flints overlaying Chalk. The wood has steep slopes within it facing north and south either side of a central ride running east/west. The majority of the mature woodland lies to the north of the ride where Val's specimen had been collected.

The Field Meeting was arranged specifically to survey for *Malacolimax tenellus* and *Limax cinereoniger*. However it was not just ConchSoc members who were involved. Val and Tony had contacted the local mycologists, the Bucks Fungus Group (BFG), and Prestwood Nature (PN), and so a party comprising Liz Biles, Ron Boyce, Christine and Pryce Buckle, Penny Cullington (BFG), Rosemary Hill, Jan Light, Val and Tony Marshall, Derek Schafer (BFG) and Peter Topley, set out from the Marshall's home to rendezvous with Mary Ghullam, and PN members, Avril McOmish, Jill and Ross McVean, Jenny Smith, Colin Simpkins and Ian Taylor in the middle of the wood. After introductions, the distribution of maps of the wood drawn up by Tony, and the Health and Safety briefing, Tony led the way to the area of old beechwood to the north of the ride (Compartment K). When, and if, another specimen of *Malacolimax tenellus* could be found and

Field Meeting Report: Angling Spring Wood and Ashfield Estate 22 - 23 October 2005

Liz Biles

everyone had had an opportunity to familiarise themselves with it, the plan was to survey the rest of the wood and, in particular, to see if the slug survived in the newer, disturbed part of the wood on the north-facing slopes (Compartment M). Before leaving the central ride Tony pointed out the uncommon species Wood Small Reed (*Calamagrostis epigejos*), but once up amongst the mature beech the group fanned out and the logrolling and teasing of leaf litter began. A variety of woodland mollusc species turned up including *Oxychilus alliarius*, which intrigued the mycologists who frequently use smell to help identify specimens.

Rain in the preceding week meant that conditions were damp enough in the wood not to disappoint the mycologists and it was a nibbled specimen of *Collybia butyracea* (Butter Cap) that caught Rosemary's eye. Upon careful searching through the surrounding leaf litter, Rosemary came up with the first specimen of *Malacolimax tenellus* of the day. The slug was examined carefully for its distinguishing features; its bright yellow colour, lilac tentacles, short keel, yellow body mucous and the pneumostome to the rear of the mantle. Several specimens were subsequently found in Compartment K though not exclusively in association with fungi and some of them, despite the bright sunshine, grazing the surface of rotting logs. It is worth mentioning here that two specimens of *Limax cinereoniger* were also found in this part of the wood.

When it came to surveying Compartment M where there were younger beech trees, several specimens of *M tenellus* were found, on the lower slopes where the leaf litter was deep and there were several fallen trees and reasonable quantities of dead timber. One particular fallen beech had fifteen specimens crawling over the

surface of the trunk with only moss and microfungi present. However specimens were also found higher up the slope close to the larch plantation where in one instance a single specimen was feeding on *Collybia butyracea* underneath Holly (*Ilex sp.*). Three more specimens were found at the top of the slope where young beech trees predominated, but interspersed with mature trees.

Altogether the morning yielded the following species: *Cochlicopa lubricella*, *Discus rotundatus*, *Arion ater* (agg), *Arion subfuscus*, *Arion distinctus*, *Arion intermedius*, *Aegopinella nitidula* (shell only), *Oxychilus cellarius*, *Oxychilus alliarius*, *Boettgerilla pallens*, *Limax maximus* (considerable colour variation was noted throughout the wood), *Limax cinereoniger*, *Malacolimax tenellus*, *Euconulus fulvus* L seg, *Deroceras reticulatum* and *Cepaea nemoralis*.

After lunch, at the invitation of Prestwood Nature, a smaller group went to Prestwood Picnic Site, an exposed steep Chalk grassland site with some areas of eroded chalk but otherwise a good covering of chalkland flora, in the hope of finding *Abida secale*. No live specimens were found and it was suggested that those shells found on the surface might well be the result of rabbits burrowing into the hillside.

The site however yielded the following: *Cochlicopa lubrica*, *Cochlicopa lubricella*, *Abida secale*, *Vallonia costata*, *Vallonia excentrica*, *Vitrea contracta*, *Aegopinella nitidula juvenille*, *Candidula intersecta*, *Cernuella virgata*, *Monarcha cantiana*, *Cepaea nemoralis* and *Helix aspersa*. Another delightful find at this site was one of the Birds Nest Fungi, *Cyathus olla*.

The Saturday was rounded off with a half

hour visit to the churchyard of Holy Trinity Church at Prestwood where no less than twenty-two different species of fungi were recorded, including many of the ‘wax caps’ that seem to find churchyard environments so amenable.

On 23rd October, a smaller party still, consisting of Liz Biles, Ron Boyce, Penny Cullington, Rosemary Hill, Jan Light, Derek Schafer, Peter and Sarah Topley, joined the Herts Fungus Group and members of the British Mycological Society (BMS) for their annual memorial foray at the 5000 acre Ashridge Estate run by the National Trust SP 971 131. Alan Outen (BMS), who was leading the foray, very kindly allowed me to talk a little about the slender slug and ConchSoc and, although only a small area of predominantly beechwood was surveyed, thanks to the combined efforts of ConchSoc members and the mycologists, *Malacolimax tenellus* were found feeding under mature beech, in leaf litter with *Russula ochroleuca* and *Laccaria amethystina*, on a rotten beech log when *Limax cinereoniger* was also present, in deep leaf litter under young beech saplings, with *Entoloma* sp, with *Clitocybe nebularis*, under beech with *Telamonia (Cortinarius)* sp and *Mycena crocata*. A specimen was found during the afternoon foray amongst the conifers, feeding on *Boletus badius*.

Time was limited at this site but the following species were recorded: *Discus rotundatus*, *Arion ater* (agg), *Arion subfuscus* (seen eating a wide range of fungi), *Arion hortensis*, *Arion intermedius*, *Nesovitrea hammonis*, *Aegopinella nitidula*, *Oxychilus alliarius*, *Oxychilus helveticus*, *Limax maximus*, *Limax cinereoniger*, *Malacolimax tenellus*, *Lehmannia marginata*, *Deroceras reticulatum*, *Trichia striolata*, *Arianta arbustorum*, and *Cepaea nemoralis*.

All in all this proved a very informative weekend and a useful collaborative exercise. My thanks go to ConchSoc members who were so good and patient at helping non-members, passing on their identification skills, and for submitting their records for me to include with this article. A copy of the records made for Angling Spring Wood has been sent to Chiltern District Council. Thank you too to Tony and Val who set the ball rolling and were so helpful throughout.

An October day on Brendon

Harry Green



The recent arrival of *Mollusc World* provoked several emotions – pleasure (interesting notes, excellent pictures), frustration (these people know so much more than I do) and guilt! Guilt because during the last few years there have been several field meetings in Worcestershire when I was designated ‘leader’. This last always seemed to me to be a misnomer because those attending always knew far more about molluscs than I did and I thought my only duty was to get attendees to the correct location and, following the horrendous Heath & Safety instructions, try to get them off home again in one piece! However, I discovered there was apparently another duty – write an account of the visit for *Mollusc World*. Hence the guilt – I haven’t done it: excuses, excuses. The final straw was the recent account of a Nottinghamshire Field Meeting from my friend, and another ornithological conchologist, Chris du Feu. If he could do it ...

On the 1st October 2005 a small party gathered on the north side of Bredon Hill in south Worcestershire and set off in search of molluscs. Bredon Hill is capped by Oolitic Limestone. The underlying Upper and Middle Lias both emerge on the north side of the Hill beneath the Oolitic escarpment and they also contain limestone bands. Geologically Bredon Hill is the Cotswolds in miniature and is an outlier of the main hills which lie ten miles to the east. Bredon Hill is a pretty limey place and local naturalist John Meiklejohn has recorded a long list of molluscs there over many years. Unfortunately he could not be there on 1st October.

As we climbed the hill we started snailing on grazed pasture and continued in a small woodland containing a few ancient trees but mainly a modern



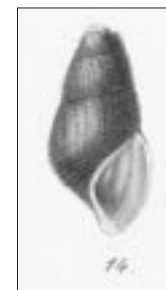
Richard Hungerford, Patrick Manson and a small contribution to the understanding of tropical disease.

Richard Hungerford (1834-1909) (figure 1-2) came from a landed family near Cork in Ireland. He was the son of William Hungerford and Jane Toye and grandson of Richard Hungerford, of Clonakilty. His distant ancestor, Sir Thomas Hungerford, Speaker of the House of Commons, had purchased Farleigh Castle in Somerset in 1369. A descendant of Sir Thomas, Captain Thomas Hungerford, settled in Cork where he was married in 1640 and purchased considerable estates in the area. Richard Hungerford is recorded as having a property in Shannon (now Emmet) Square, Clonakilty and his wife Sarah was also born there in 1837.

Hungerford was an M.D. and deputy surgeon general of the 53rd (Shropshire) Regiment of Foot, which is recorded as having had tours of duty in Ireland. This regiment was amalgamated in 1881 with the 85th King’s Light Infantry to form the King’s Shropshire Light Infantry (KSLI). In the late 19th century the KSLI saw action in the Sudan but it was also stationed in Hong Kong where, in 1894, it worked in heavily infected areas of the

colony during the plague.

I have not been able to find anything about the origins of Richard Hungerford’s conchological interests, however he (and his family) had evidently already traveled widely with the 53rd prior to 1881, since one daughter, Frances was born at Jaffna, in what was then Ceylon, in 1865 and another daughter Mary in Newcastle, Jamaica in 1869 so that his interest in tropical shells probably began at this time. He evidently was stationed in Hong Kong in the 1880’s and made collections there. Several marine species are probably named in his honour, including *Erronea hungerfordi* (Sowerby, 1888), *Compressentalium hungerfordi* (H. A. Pilsbry & Sharp, 1887) and *Fulvia hungerfordi* (Sowerby, 1901), indicating that he was possibly corresponding with these authors at this time. His interest was not, however, restricted to marine shells. In 1881 Hungerford’s friend, the Scottish pioneer of tropical medicine Patrick Manson, contacted him. Manson had been carrying on his work at Amoy in China to determine the cause of filariasis but had recently examined a patient who exhibited microscopic eggs in his blood-sputum. Manson managed to incubate these eggs and observed small jelly-like creatures, provided with cilia, which swam about in all directions. He sensed the organisms must be looking for something in the water and it struck him that it could be for a freshwater snail. If so, he reasoned that the snail must belong to a species common in ponds and streams of southern China, Japan and Formosa, the areas in which this disease, then called ‘endemic haemoptysis’, later identified as being caused by species of the lung fluke *Paragonimus*, was common. He therefore wrote to Hungerford in Hong Kong and asked him to forward some snail specimens. Hungerford sent him a consignment of sixteen snail shells and descriptions of the species *Semisulcospira* (formerly *Melania*) *libertina* Gould, 1859 (figure 3 from Brott, 1874). These had been found by Hungerford in the streams and watercourses of the Peak in Hong Kong but its distribution, as far as was then known,



corresponded to that of the ‘spitting disease’.

Manson imagined that the flukes, after hatching out from the eggs in water, came into contact with freshwater snails which were subsequently eaten by humans (a supposition which was eventually proved correct). ‘On questioning some of his patients...he found that it was a common practice in some villages to eat these snails, but only when cooked. One informant volunteered the information that the snails fed on dead men’s flesh and that these dainty morsels no longer figured on the bill of fare!’

By 1891 Richard Hungerford had retired from his position, then described as ‘Dispensary Surgeon’, had moved to England and was living in Hammersmith, London at 117 The Grove with his wife and several children. By the 1901 census (when he was described as Army Medical Officer, retired) they had moved to 43 Fairfax Road, in the Parish of St Michael and All Angels, Chiswick where he died in 1909, aged 75 having, amongst his other contributions to conchology (his shell collection was acquired by G.B. Sowerby 3rd), played a small part in the history of tropical medicine.

Acknowledgements

The photograph of Richard Hungerford originates from the Clonakilty museum pilot web site at <http://www.askaboutireland.com/pilots/fo ur/clonmuseum.html>.

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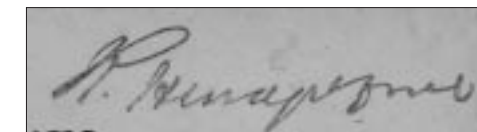


Fig. 3. *Melania libertina*

A Survey in the Forest of Dean David Long

In the Spring of 2004 Gloucestershire Wildlife Management Limited, acting under the auspices of the Gloucestershire Wildlife Trust, invited myself and an arachnologist friend, David Haigh, to make 10 recording visits over two years to “scowles” sites in the Forest of Dean in west Gloucestershire all in vice county 34. We worked together, but others made separate visits to cover habitat, mosses and liverworts and bats.

Although the survey was originally intended to cover both Forest Enterprise and privately owned sites only Forest Enterprise sites were visited.

Scowles are excavations, some going back to Roman times, to recover iron minerals from solution hollows in early Carboniferous rocks especially the Crease Limestone, but also other rocks such as the Drybrook Sandstone. [1] The scowles closely follow the narrow outcrop of these rocks which surrounds the late Carboniferous sandstones and coals of the central Forest of Dean, from roughly Lydney Park up to the Wigpool area and south again to near Blakeney. The diggings now appear in various forms, from shallow soil and leaf litter filled hollows to holes with prominent rocks and sometimes cave entrances. Vegetation in and around the scowles varies from deciduous woodland to conifer plantations (and occasionally open sites). Recent quarrying is also often associated with these early Carboniferous rocks.

We were supplied with a set of 1:5000 Ordnance Survey-based maps on which scowles and quarries had been marked by Gloucestershire County Council Archaeology Service with colour outlines indicating whether they were in Forest Enterprise or in private ownership. Using these maps, sites were selected for fieldwork, with a bias away from conifer plantations and were also chosen to ensure sampling of the overall geographical spread of the scowles.

On site searches were made of litter, using sieves in dry conditions, ground vegetation (sweeping), visual searches of tree trunks, rocks, rock faces and herbage and sweep netting and beating of herbage and foliage. Rocks and stones were turned over and replaced. Search duration varied. We did not enter caves. Molluscs were identified in the field.

Three freshwater and 52 land mollusc species were recorded. One of these species, the Slender slug, *Malacolimax tenellus*, is a Species of Conservation Concern in the UK Steering Groups Biodiversity Action Plans and it is also Nationally Notable [2]. In general the fauna mostly consists of species typical of woodland, and it includes 5 species typical of old woodlands – the Nationally Notable Greater pellucid glass snail *Phenacolimax major*, the Ash-black Slug *Limax cinereoniger*, the Slender slug, *Malacolimax tenellus*, the Point snail *Acicula fusca*, and the Brown snail *Zenobiella subrufescens*. The occurrence of these within or very near to Scowles excavations shows they can in time re-colonise disturbed ground to some extent.

Common elements in the assemblage were *Carychium*

tridentatum (not in acid sites), *Discus rotundatus*, Arionid and other slugs, and Zonitid glass snails. Of the last the Glossy glass snail *Oxychilus helveticus* was found only on the west side of the Forest, near the Wye; this matches older records. Species mainly associated with humanly disturbed ground and gardens did not turn up often; there were at most two records each for Milacid slug species, the Strawberry snail, *Trichia striolata* and the Garden snail *Helix aspersa*.

The best demonstration of the link between the local geology and molluscs occurred in the Old Staple Edge area (SO/64.10.-65.10). Here there is a clear contrast between the limited mollusc fauna in the Oak and Beech areas and the much more diverse assembly in the scowle pits. This must be related to the contrasts in the geology between the limestones, which had contained sought after minerals, and the acid rocks of the surrounding areas. The acid fauna (11 species recorded under Beech, and 7 under Oak, in May 2005) includes the old woodland indicator slugs *Limax cinereoniger* and *Malacolimax tenellus* and *Zonitoides excavatus*, the only exclusively calcifuge woodland snail in the British fauna. The scowles themselves had 17 species recorded in May 2005 including another old woodland species *Acicula fusca* which was found in one scowle

No molluscs were exclusive to scowles. Two species typical of rock faces and, scree and walls, the Lesser bulin, *Merdigera obscura*, and the Lesser chrysalis snail, *Lauria cylindracea* were found associated with vegetation near/on rock faces (the former also occurred on tree trunks) and rubble.

Very many thanks to Jeremy Doe of Gloucestershire Wildlife Management Limited (GWML) for approaching us to do this work and to Forest Enterprise for giving permission for entry on to their land and to David Haigh for doing nearly all the driving and finding most of the uncommon molluscs as well as the spiders.

Detailed records have been passed to GWML (for among others the Gloucestershire Environmental Records Centre) and to the Conchological Society's Non-marine Recorder.



David Long



2



3

plantation of conifer and alder. From there we emerged on to extensive uneven rough pasture lying on the Upper Lias. On this hummocky zone there is a considerable scattering of Oolitic limestone fragments of all sizes derived from the escarpment above; a scattering of solitary ancient ash trees; and several old tumbledown stone walls. Small scree lie at the base of the steep escarpment. From the rough grassland we climbed the steep north-facing grassy slope of the Inferior Oolite to the closely grazed pastures on the earthworks near the tower. After admiring the amazing view we followed a pathway gently sloping south and running alongside a stone wall to a small beech woodland containing another collapsed stone wall. From here we moved down to another area of rough pasture. While traversing the rough grasslands we investigated several wet flushes and a small stream which meanders through a small marsh near the site of a long-deserted village.

We found many of the commoner slugs and snails in various habitats. Highlights for me included David Long's ability to find the tiny snails typical of limestone grassland, apparently with ease! (Thank you Harry. Short sight helps - DCL). One species that fascinated me was *Ceciliodes acicula* which I had not seen before. The experts headed for disturbed soil to find these and I was pleased to take a couple of shells home to photograph. A pleasing aftermath was to discover that my conchologist mentor John Meiklejohn had not found them on Bredon before! We

found the typical larger snails of limestone grassland *Ceruella virgata* and *Candidula intersecta*, and were pleased to find an extensive colony of *Helicella itala*. Live examples of the latter were closely associated with clumps of dead and falling Musk Thistles *Carduus nutans* – lift a clump and a cluster of snails were hiding within. Nearby, several species of sub-fossil snails could be seen in eroding soil banks including *Pomatias elegans* – a species which still has colonies on another part of the Bredon Hill. The stone walls are well known for their colonies of *Pyramidula rupestris* and we found plenty of them under the wall stones and in the scree. Besides molluscs we recorded a few other invertebrates, several harvestmen, hibernating true bugs, the woodlouse hunting spider *Dysdera crocata*, and in the many ant nests the blind white woodlouse *Platyarthus hoffmanseggi*

In all, our visit to Bredon Hill provided a very enjoyable day with excellent weather and clear visibility allowing outstanding views of the Coloured Counties. Most of the area visited is designated SSSI and we are grateful to the owner Mark Steele for allowing us access. We plan another visit to the nearby National Nature Reserve with its limey pastures, scrub, old trees, boggy slumps, stone walls, marshy uplands, and the Great Mud Slide. Why don't you come along?

Harry Green. (Rosemary Hill, Ron Boyce, and David Long).

Molluscs found Bredon Hill, Worcestershire, 1st October 2005.

<i>Aegopinella nitidula</i>	<i>Nesovitrea hammonis</i>
<i>Aegopinella pura</i>	<i>Oxychilus alliaris</i>
<i>Arianta arbustorum</i>	<i>Oxychilus cellarius</i>
<i>Arion ater</i> agg	<i>Oxychilus helveticus</i>
<i>Arion distinctus</i>	<i>Oxyloma pfeifferi</i>
<i>Arion intermedius</i>	<i>Pisidium casertanum</i>
<i>Candidula intersecta</i>	<i>Pisidium personatum</i> in pool
<i>Carychium minimum</i>	<i>Potamopyrgus antipodarum</i>
<i>Carychium tridentatum</i>	<i>Pupilla muscorum</i>
<i>Cecilioides acicula</i> in disturbed soil	<i>Pyramidula rupestris</i>
<i>Cepaea hortensis</i>	<i>Succinea putris</i>
<i>Cepaea nemoralis</i>	<i>Tandonia budapestensis</i>
<i>Ceruella virgata</i>	<i>Trichia hispida</i>
<i>Clausilia bidentata</i>	<i>Trichia striolata</i>
<i>Cochlicopa lubrica</i>	<i>Vallonia costata</i>
<i>Cochlicopa lubricella</i>	<i>Vallonia excentrica</i>
<i>Deroceras reticulatum</i>	<i>Vertigo pygmaea</i>
<i>Discus rotundatus</i>	<i>Vitrea contracta</i>
<i>Ena obscura</i>	<i>Vitrea crystallina</i>
<i>Helicella itala</i>	[<i>Cochlicopa lubricella</i> subfossil in exposed soil]
<i>Helix aspersa</i>	[<i>Pomatias elegans</i> subfossil in exposed soil]
<i>Lehmannia marginata</i>	[<i>Vallonia excentrica</i> subfossil in exposed soil]
<i>Limax maximus</i>	
<i>Lymnaea truncatula</i>	

1. The elephant stone on top of Bredon Hill amongst grazed limestone grassland. Picture R Hill
2. *Helicella itala* found on Bredon Hill. Picture R Boyce
3. Snailing party confer on Bredon Hill rough grassland: Left to right David Long, Rosemary Hill and Harry Green. Picture R Boyce.

Canal Boats with a Snail Theme

Jane Bonney

While I was still a holiday boater I noticed more than one boat by the name of *Brian the Snail*, although I can no longer recollect the exact location of any of them, they all seemed to have a certain yellow and red molluscan character painted somewhere on them. It struck me at the time that a snail name was particularly appropriate for this very slow form of transport, given that the maximum speed limit on British Waterways is but 4m.p.h. I determined that when we eventually procured our own boat it should be named *Wandering Snail*, a most apt name given that it is not only a fresh water species but that we were determined to become what is termed 'continuous cruisers'. However I was thwarted in my ambition when we discovered that it is frightfully bad luck to rename a boat. We are now stuck with the moniker *Tin Lizzie*; neither the worst name I can think of nor the best. I would hope to use *Wandering Snail* one day should we be lucky enough to have a narrow boat custom built.

Quite naturally I have kept a weather eye open for other boats and boaters who share my interest in snails and within a few days of starting on our journey I was to encounter two in Braunston,

Northamptonshire, affectionately known as 'The Venice of the North' (despite being in the Midlands). The first was actually out of the water for bottom blacking in the boat yard at the time, giving me plenty of time to go back and get my camera, and was called simply *Snail* (Fig 1). It had a rather nice snail painting on the side (Fig 2), and the man from the marina told me that they kept Giant African Snails on board. The second one, which passed so rapidly I barely had time to turn on my camera, was ironically called *Snail's Pace* (Fig 3)!

Within two weeks we spotted another snail boat, this time at Fradley Junction between the Trent and Mersey and the Coventry Canals. I had left my camera on the boat when we saw it, but almost a year to the day later we spotted *Escargot* with its rather stylish logo again (Fig 4). Although we had travelled some 500 miles by then, it was moored about two miles from where we had first seen it. This time I had the camera to hand.

Snails seemed to be a popular theme on the Leeds and Liverpool Canal. We spotted *Less-Cargo* (with a rather grotesque snail caricature) (Fig 5) near Chorley and *L'Escargot* (Fig 6) at Bank

Newton. The boaters that we went up Wigan Locks with told us that they knew of a boat called *Oddnydod* (Fig 7), a Yorkshire dialect word for a snail, but it wasn't until October when we were on the Shropshire Union that we spotted it ourselves. It had no less a character than the famous Brian painted on the side!

It wasn't until the end of February that we spotted another snail boat, but at Fenny Stratford on the Grand Union Canal we found ourselves moored up opposite *Water Snail* (Fig 8). This boat had no snail picture although some months later we moored next to *Slow Progress* (Fig 9) near Devizes on the Kennet and Avon. Although not named for a snail, it had a rather beautiful snail logo on the side (Fig 10).

The only time we saw a River Cruiser (as opposed to a canal boat) with a snail name was in June on the River Severn. Ironically as the speed limit on this waterway is 6m.ph. downstream, it was our boat which was going too fast to get a decent photo! I was able to catch the name on the side of '*S*' *Cargo* (Fig 11), but not the lovely snail picture on the back.

During our travels we have also encountered lots of snails incorporated into signs, benches, murals and the like. We have also spotted a fair number of boats with snail ornaments on and in them, although in all honesty I have to say that none have rivalled the amount aboard *Tin Lizzie*!

A Mediaeval Scallop Shell

Peter Topley

The church of All Saints, Clifton in Bedfordshire is fortunate to have a rare survival in the form of painted panels from a late fourteenth century rood-screen. Most medieval parish churches once had such a screen; made of wood or stone they were designed to separate the chancel from the nave. In 1972, panels from such a screen, which had hung on the walls of the church tower at Clifton for over 100 years, were carefully erected as an impressive tower arch screen forming an entrance to the choir vestry. They were of fine oak and, underneath much overpainting, a painted figure could be faintly discerned on each panel. Between 1988 and 1992 the panels were painstakingly cleaned and preserved *in situ* by a small team of expert conservators. The sixteen panels depicting nine saints, each with traditional symbols to denote who they are, and seven prophets, are now believed to be some of the earliest paintings on an English rood-screen.

One of the panels shows St James, "the Great" (see images). He holds a scallop shell, the Compostela pilgrim badge which became firmly associated with James from the 12th century onwards through the pilgrimages to his shrine at Santiago de Compostela. A detailed account of the scallop as a symbol of this saint can be found in Ian Cox's familiar book "The Scallop, Studies of a shell and its influences on humankind" which was

produced by the Shell Oil Company in 1957. The origins of the scallop symbol have become somewhat obscured with time and even the medieval stories seem to have been invented as ways of justifying an existing custom such as "...the story of a horseman, saved from drowning by St James, who found on emerging from the waves that both he and his horse were covered with scallops." Nevertheless the scallop came to symbolize the journey of both the pilgrim and originally, as the legend has it, St James, from the sea inland to Santiago de Compostela.

As a very early example of an advertising symbol at a time when few could read or write, the scallop badge was an idea of genius. The scallop of which pilgrim's would have attached a valve to their coat or hat to honour St James was probably more commonly the Atlantic *Pecten maximus* (L.) than the so-called "Pilgrim's Scallop", *P.jacobaeus* (L.), a mainly Mediterranean species. However both were, and still are, fished for food and valves would have been available for use. The depiction of St James with the scallop held aloft in the fingertips of his left hand in the image on the Clifton rood-screen panel, was an invitation to the people of the village to visit his grave, an invitation to go on pilgrimage.

Oysters and Horseshoes

Alex Menez

The Gibraltar Museum and the University of Wales, Cardiff

In 1997 the Gibraltar Museum undertook an urban excavation at Casemate's Square at the entrance to Main Street, Gibraltar. Casemate's was a port area hundreds of years ago (details and discussion of the excavation are in Finlayson and Finlayson, 1999). The excavation turned up a great deal of very interesting material including many large oysters (*Ostrea edulis* Linnaeus, 1758) from the 16th century levels. Some of these oysters are much larger than those found around Gibraltar's shores now and fit the description for *O. edulis* form *hippopus* Lamarck, 1819.

A striking feature of many of these oysters is the presence of a square perforation (Photo 1) that Professor Clive Finlayson, Dr. Darren Fa (both from the Gibraltar Museum) and myself hypothesized were made to ease the opening of the shell. We thought this might be an explanation because perforations were located mostly in the area of the adductor muscle. Knife marks on the inside of many shells suggests people were eating the oysters. We know oysters were popular in the area, as in many other Mediterranean areas (Poppe and Goto, 1993), with extensive oyster beds in the Bay of Gibraltar, up until about 100 years ago (Finlayson and Finlayson, 1999).

With so much other research to occupy us, the case of the perforated oysters took a place (among many others!) on the backburner. Then, on a recent visit to a restaurant in nearby Los Barrios, Spain, I saw old horseshoes

(Photo 2) nailed onto a wall, forming part of a collection of old farm implements. It struck me immediately that the holes made on these were similar in shape to the ones on our oysters. Although the horseshoes are not contemporaneous to the oysters, it made me think that perhaps the holes were made in the shells as a means of nailing the shells onto something. Maybe they were used as roof tiles, or for decoration. I've not come across any mention of this use locally, nor in the literature generally (but I've not done an exhaustive search). Has anyone come across shells perforated in a similar way to the Gibraltar oysters, and if so, why they were perforated?

Finlayson C, Finlayson G. 1999. *Gibraltar at the End of the Millenium*. Gibraltar: Aquila.

Poppe GT, Goto Y. 1993. *European Seashells, Vol. II*. Wiesbaden: Hemmen.

FREE

ANDERSON R., 2005. An annotated list of the non-marine mollusca of Britain and Ireland. *Journal of Conchology*, 38: 607-638. Offprint.

This new updated nomenclatorial list is to be used as the basis for British and Irish non-marine molluscs. Members and non-members may obtain one free by sending an A4 self addressed envelope with postage for 90g (35p in the UK) from:

Celia Pain, 131 Wakeley Road, Rainham, Kent ME8 8NP.

'Out of My Shell' by Peter Dance – a correction

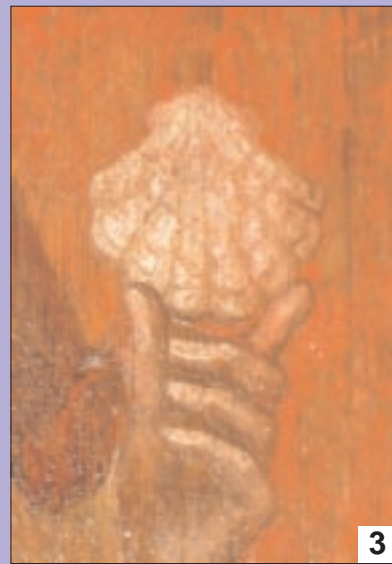
This book (reviewed in MW8) is currently being distributed by Charles Woodward. He has discovered from a Society member that an incorrect website/email address is being circulated (www.csgwoodward.co.uk should read www.csjwoodward.co.uk)



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A



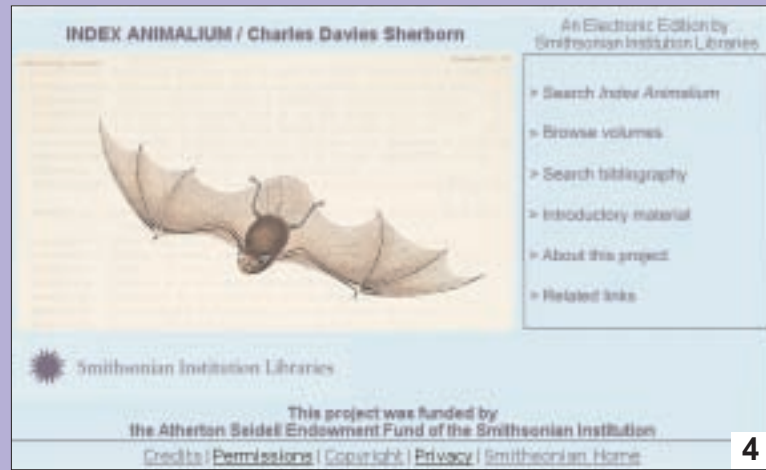
B



C

Images A-C relate to Field meeting report. Page 3.

Photos Ron Boyce and Rosemary Hill



4



5



6



7



8



9

Images 1-7 relate to specific articles within the magazine.

- 1. Periostracum. Page 17.
- 2-3. Rood-screen panels from the All Saints Church, Clifton. Page 19.
- 4. Index animalium. Page 16.
- 5. SCAN project. Page 22.
- 6. A horseshoe forming part of a display of old farm implements in a restaurant in Los Barrios, Spain. The horseshoe is about 10cm across at the widest part. Page 19.
- 7. One of the Gibraltar perforated oysters from the Casemate's Square excavation. The cut-out area is just over 1cm across. Page 19.
- 8-9 Yorkshire notes. Page 16.
- 8. A specimen of *Musculium transversum* from the canal at Thorlby
- 9. Some large size *Pisidium amnicum* were found in the canal.

Photos David Lindley

Images 1 - 11 (Fig 1 - Fig 11) relate to Canal boats with a snail theme.

Photos Jane Bonney

Sn@ilmail 2

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Biographies of Malacologists.

2,400 years of Malacology
The Third Edition of "2,400 years of Malacology" by Eugene V. Coan, Alan R. Kabat & Richard E. Petit (2006) has just been posted on the web-site of the American Malacological Society at: http://www.malacological.org/publications/e_pubs.html

Those of you who have used the appendices of collectors and collections in Peter Dance's History of Shell Collecting, will know how useful these resources can be when you are trying to track down a collection or know more about a particular collector. Coan et al.'s publication is following a new trend, as it is an e-publication freely available to download as a PDF file. It's about 3.4 MB in size, so it will take a while to download, unless you have broadband at home. There are 664 pages in this catalogue which list biographies, obituaries and bibliographical papers on malacologists, conchologists, paleontologists, and others with an interest in molluscs. Amongst the interesting additions in this volume was the Danish collector, Hans Christian Andersen, more well-known for his children's stories, he was also an avid collector of land and fresh-water molluscs.

The first edition was posted June 2004, followed by the second edition in January 2005. The Third Edition has extracted data from Cleveley (1983) and Lambrecht et al. (1938) hence has a more complete coverage of paleontologists and the nineteenth-century explorers and naturalists in Central and South America. Each update contains additional information posted in by numerous colleagues around the world, as well as the authors' own searches. They welcome information on sources missing from the bio-bibliography. Contact r.e.petit@att.net if you have further information on sources. (Edited from posting by Dick Petit on Conch-L)

NMGW Sources section for Melvill-Tomlin collection

In the Melvill-Tomlin collection there are over 700 recognised secondary sources of material. These collectors provided material to Melvill or Tomlin, often in exchange or to get their species identified. The section have started a programme of imaging letters in the archive (see previous contributions by Jennifer Gallichan in Mollusc World). On our web-site you can also find a list of these secondary sources along with information on obituaries. This is provided in both english and welsh: <http://www.museumwales.ac.uk/en/318/>

Sherborn's Index Animalium

This digitisation project was funded by the Atherton Seidell Endowment Fund of the Smithsonian Institution. The volumes are now available as an on-line browsable or searchable database. Hence you can search this either by species name or look for a particular article. As Sherborn's index takes up a complete library shelf in Cardiff, this on-line tool is very useful for those who are interested in nomenclature but don't have access to a large library in their study. Sherborn notes at the end of his mammoth task compiling these volumes, that he hoped that the projects to compile lists of names would continue, as he saved every Zoologist much time duplicating their efforts to search out new publications containing species names.

<http://www.sil.si.edu/digitalcollections/index/animalium/>
<<Index_animalium.jpg>>

Neaves Nomenclator Zoologicus

Funding from GBIF and the Andrew Mellon Foundation has allowed for Sheffield Neave's Nomenclator Zoologicus to be made available through the internet; this is a list of all genera and subgenera in Zoology from 1758 (volumes 1-9), and has been updated to included names 1994 to 2004 (Volume 10). In addition there is an editorial tool that allows the digitized copy to be reviewed against the original printed form and corrected when transcription errors are detected. This tool allows reviewers to register and be credited for their work.

<http://uio.mbl.edu/NomenclatorZoologicus/>

Looking for an out of print book?

Check out GALLICA - this is the official site of the Bibliothèque Nationale (Paris). The library have undertaken a digitisation

programme scanning many old reference books and saving them as page images, in Adobe PDF format. This library provides access to some 15 million pages of classic texts. Included are some classical malacological works:

Lister (1685) - *Historiae Conchyliorum*. Available at: <http://gallica.bnf.fr/scripts/ConsultationTout.exe?E=0&O=N098966>

Lister (1696) - *Conchyliorum Bivalvium*. Available at: <http://gallica.bnf.fr/scripts/ConsultationTout.exe?E=0&O=N099094>

Lister (1823) - *Historia sive Synopsis Methodica Conchyliorum, Editio Tertia*. Available at: <http://gallica.bnf.fr/scripts/ConsultationTout.exe?E=0&O=N098967>

Jeffreys, John Gwyn. *Marine shells.....* Available at: <http://gallica.bnf.fr/scripts/ConsultationTout.exe?E=0&O=N099088>

Lovell, M. S. *The edible mollusca of Great Britain and Ireland with recipes for cooking them.*

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Find out about the routes of Challenger Expedition

One of the classic expedition reports from last century was those of the Challenger expedition. The expedition sampled over 360 stations from atlantic through into the pacific oceans. On return the scientific samples were distributed to over 100 scientists, who worked with John Murray, to produce *The Report of the Scientific Results of the Exploring Voyage of H.M.S. Challenger during the years 1873-76*. Over 50 volumes were published between 1885 and 1895. The charts of the route of the Challenger expedition have been digitised and posted on:

http://hercules.kgs.ku.edu/hexacoral/anemone2/charts/1_2_small.jpg

Update of Malacolog

Malacolog 4.0 is now online <<http://data.acnatsci.org/wasp/>>, with expanded coverage including Western Atlantic bivalves, scaphopods, chitons, aplacophorans, and monoplacophorans.

found the references to the old cotton mills. There are, I note, some records from around the Liverpool area and this is the area from which raw cotton would have been forwarded to the mills. It would seem that a possible explanation for its presence in Gargrave is that it arrived with these bails from the Liverpool area; after all it would not be the first species to be transported in this manner. I would appreciate any other suggestions from members.

The record for *M. transversum* is equally as important. This is a species rarely encountered and it was interesting to see it at 2 points on the canal, which were some 6km apart as the canal flows. The NBN gateway shows the atlas record to have been made in 1966. On speaking to Barry Colville a few weeks after our visit I told him of the site which he then visited and found good numbers of adults. I have noticed that some of the specimens pictured in the AIDGAP key to bivalves were from Clayton-Le-Moors a village through which the canal runs, which is over 30km away on the Lancashire side of the Pennines. I think it worthy of mention that about 4 years ago I investigated a short stretch of the canal that had been drained for maintenance. This was between the two localities visited and although I found a long list of species, *M. transversum* was not seen either live or dead. I hope this short article helps to remind members of how useful and interesting 'ad-hoc' recording days can be. When time permits this year I shall be checking other stations along the canal in order to try and locate further sites for this interesting yet very local species.

References

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How long does periostracum last after the death of the snail? Amanda Millar

When studying the populations of snails, use if often made of the presence of fresh dead shells; i.e. with outer protein periostracum layer still present. The shells themselves are believed to survive many years, even decades in the surface soil layers if the soils have a high pH. Chalk rich soils help preserve the shells from decay for hundreds or even thousands of years, and are extremely useful to help determine earlier environmental conditions. Several authors (e.g. Evans 1972, Cameron & Morgan-Huws 1975) state that the periostracum decays within a year. This would mean that shells with periostracum still present could indeed be counted as fresh and would be useful in population studies. But I have been unable to find evidence to back this very reasonable assertion. How much periostracum would be needed to be called 'intact', given that some lose the periostracum on their apex while they are alive? The decay of periostracum could be caused by chemical attack, abrasion, bacteria, temperature fluctuations, other snails grazing and other reasons. It would be affected by the pH of the soil, whether buried or exposed to the sun and rain. I was determined to test how long the periostracum really did survive in the fairly neutral soil developed from Weald clay, in my garden.

Twelve live *Helix aspersa* were killed and the bodies removed and divided into two groups in plastic mesh bags. One bag was buried just under the surface of the soil and the other was left on the surface in a relatively undisturbed part of the garden under a fig tree. Another bag of mixed already dead shells, but with complete periostracum was left on the surface. They were exposed to frost and rain in winter, and sheltered from the worst of the summer sun. The results were as follows:

Experiment started 28th December 2002.

4 weeks later after much rain and frost those on the surface were already starting to show pitting of periostracum, but those buried were still largely intact.

23rd December 2003

Buried bag: two mature *Helix* lost 25% and 40% of periostracum on apex and last

whorl.

Two smaller *Helix*: one lost 10% from apex and the other 60% mainly from last whorl. Two juveniles; one lost 5% from apex, the other lost 50% flaking off all over the shell

The freshly killed surface bag: 2 mature *Helix* – one lost 10% around apex and 10% on underside (total 20% gone), the other lost 90% with only the most recent part of the shell still with periostracum. The other four had lost; one less than 5% from apex; two had lost 5% from apex and 5% from base of last whorl (total 10%), one 5% on apex and 10% on base (total 15%). One juvenile was still largely intact.

Mixed bag: 8 *Helix* showed losses between 15% and 90%, mostly on apex and underside.

3 *Cepaea*; virtually intact; 10% loss and 95% loss respectively

3 *Trichia striolata* had all lost the periostracum

2 *Monacha cantiana* had lost 5% on apex and 10% but apex still intact respectively.

10th November 2005

Buried bag, 6 *Helix* had all lost 90% of periostracum.

Unburied *Helix*, now only 5 shells remained, one had lost 90%, one lost 50% and three lost about 15%

The unburied mixed bag, 16 shells reduced to 10 plus fragments: two *Cepaea*, two *Helix* and one *Monacha* had lost 90% of periostracum. one *Helix* had lost between about 75%. 2 *Helix* and one *Cepaea* had lost 30% and the two *Trichia* still survived with total loss of periostracum.

So after three years some of the unburied shells still had as much as 80% of the periostracum intact. Despite initial results the buried shells seemed to lose the most periostracum, suggesting damp and bacteria may have more impact than surface weathering.

Anyone fancy doing a long term experiment with different soils and leaf litters and different levels of aerial exposure?

Refs:

Cameron, RAD, Morgan-Huws, DI, 1975, Snail faunas in the early stages of a chalk grassland succession *Biol. J. Linn. Soc.* 7: 215-229

Evans, JG, 1972, *Land Snails in Archaeology*

Yorkshire Notes

David Lindley



David Lindley

I count myself lucky that I live close to another conchologist; in my case it is Adrian Norris. This means that any discussion regarding the identity of a specimen or a particularly interesting site need not take place over the telephone or via the internet. More importantly it means that there is more scope for ad-hoc field trips and as I work shifts there are often times when these can be arranged.

A telephone call on 10th June 2005 established that Adrian was free the following day and I arranged to collect him. As far as the venue was concerned Adrian is currently working towards a 1km coverage of Yorkshire and a quick look at the current coverage map was needed. I noticed that 10km square SD 59 had quite a few gaps on its Western edge. This square covers Skipton and has within it both the River Aire and the Leeds and Liverpool canal. So the venue was to be Gargrave to the West of Skipton.

Gargrave straddles the A65, which is the main road at the southern edge of the Yorkshire Dales. Both the aforementioned water courses meander through the village, and in fact the canal crosses the river on an aqueduct on its western edge just prior to bending south and heading for the red rose county (or conversely did it bend North and head for Gods country). During the construction of the canal, work came to a halt on the Yorkshire stretch at Gargrave for 13 years due to lack of funding. When it was finally completed in 1816 it connected Hull to Liverpool utilising the Humber and the Aire and Calder navigation. It is also worth mentioning that the boundary between VC's 63 and 64 follows the canal in this area. The Aire at Gargrave is in transition between mountain stream and floodplain river as east of Skipton it starts to enter the industrial heartland of West Yorkshire. The bed is extremely rocky in many parts yet there are also some small stretches of slow water.

Our first stop was the village itself. The old walls around produced, among other species, numbers of *Vallonia costata* and

Clausilia bidentata, *Cornu aspersum* was also present which confirmed an old 10km record.

The river within Gargrave was extremely poor and very rocky with only *Lymnaea peregra* being found. A small stream that entered the river gave us our first surprise in that it not only contained *Valvata cristata* and *Gyraulus albus* but *Bythinia leachii*. I will speak of this species later. Following the stream a short distance we discovered that it was the release point from an old goit which is a left over from one of the two cotton mills, which closed in the 1930's. This goit was rich in mollusca with huge numbers of *Spharium corneum* being found.

Travelling to the west out of the village we looked at several stations along the canal and recorded several species of interest such as *Theodoxus fluviatilis*, *Limax flavus*, *Ashfordia granulata* and *Spharium rivicola*.

Following lunch which was taken 'al fresco' on the canal side at Bank Newton (SD 34/9152) we investigated this site. An old wall added *Balea perversa* agg. to the list, and the banking added 2 new 10km records for *L. flavus* and *Deroceras panormitanum*. The canal itself provided a decent list, the most important of which was *Musculium transversum*. This was found only in one small area near and under the bridge and was in thick mud. This was only the second time I have encountered this species in Yorkshire, the first being the classic site at Blue Bridge in York over 20 years ago. I only found 3 adult dead shells but Adrian quickly found a number of distinctive juveniles. Surely this must be the find of the day?

We decided to head for home but with the intention of some stops on the way. Upon examining the area of Thorlby Swing Bridge (SD 34/9652) between Gargrave and Skipton we again found an interesting site. There were large numbers of very fresh dead shells left by a recent flood actually under the swing bridge and a search of these added several species to the site. Among these *S. rivicola* was found in numbers together with a few specimens of *M. transversum*. A search of the canal did not reveal any other specimens of the latter. Another 10km record was added that being *Acroloxus lacustris*, found as usual on marginal plants. I feel it is worth mentioning that here, as at other points visited during the day, *Pisidium amnicum* was found and that many were of large size bordering on the maximum dimensions given by Kileen et al. This 1km square had the highest total of the day.

For those interested in statistics, I will mention that during the day we had recorded a total of 60 species, 30 terrestrial and 30 freshwater, which had been obtained from 8 one-kilometre squares. The numbers varied from 14 in the lowest which was a road margin to 34 in the highest. On checking the day's records against the atlas I discovered that there were 6 new 10km records and 7 confirmed pre 1950 records.

It was at this point that I realised the importance of the record for *B. leachii*. A glance at the atlas will show any observer that the majority of Yorkshire records for this species are in the east of the county and that this old record was stuck out on its own. If I had noticed the record before I would have assumed that it was from the canal but this was not the case. It was whilst compiling this note that I made the research to try and identify the reason for the goit from which the specimens came and

With the addition of these groups, Malacolog documents more than 6000 species of marine mollusks in the Western Atlantic that are currently considered valid, and records more than 14,000 names.

Taxonomic and geographic data for these other groups are not as complete as for gastropods.

(Edited from a posting by Gary Rosenberg on Conch-L)

Compiled by

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Section web-site

<http://www.nmgw.ac.uk/www.php/123/>

Collection databases search:
<http://zoology.nmgw.ac.uk:591/Museum/mollusca.htm>

New Books

Classification and nomenclator of gastropod families
Philippe Bouchet & J.-P. Rocroi [eds] - (2005)

This is published as a volume of Malacologia, but is also available as a separate volume from Conchbooks. It is a revised classification of the Gastropoda, hence superseding Ponder & Lindberg's classification. It goes further as for each name a full bibliographic reference is given, with date of publication, type genus, nomenclatural availability and validity under the rules of the ICZN. It covers 2,400 suprageneric names in recent and fossil gastropods, from the subtribe to the superfamily. A further 730 names of higher taxa are listed separately. Altogether 611 valid families, 202 of them exclusively fossil, are recognised in the proposed classification. Bouchet and Rocroi are working on a similar volume which deals with all generic names. The book can be ordered from Conchbooks (Code W1140). Euro44,00 plus postage.

Oestophora calpeana (Morelet, 1854): The Gibraltarian snail Alex Menez

The University of Wales, Cardiff and The Gibraltar Museum, Gibraltar

The genus *Oestophora* Hesse, 1907 is represented in Iberia by seven species: *O. barbula* (Rossmässler, 1838), *O. dorotheae* Hesse, 1930, *O. lusitanica* (Pfeiffer, 1841), *O. ortizi* De Winter and Ripken, 1991, *O. silvae* Ortiz de Zárate, 1962, *O. tarnieri* (Morelet, 1854) and *O. calpeana* (Morelet, 1854) (Puente, 1994). Of these *O. barbula* has the widest distribution (mostly western Iberia) followed by *O. lusitanica* (north and central western Iberia) and *O. silvae* (northern Iberia); the others are restricted to southern Iberia. *O. calpeana* is known in Iberia only from Gibraltar, its type locality. In 1953 Morelet described this species as *Helix lenticularis B Minor* from material collected in Gibraltar by Tarnier. He named it a year later as *Helix calpeana* (Ortiz de Zárate, 1962), after Calpe, an old name for Gibraltar, thought to derive from the Phoenician *kalph*, which means to hollow out (Hills, 1974).

I have sampled a large number of sites in southern Iberia, as has Arr_bola (1995) and have never found the species other than in Gibraltar. This extremely narrow distribution led Arr_bola to think it may have been introduced, although fossil material from Gibraltar suggests this is not the case.

Ortiz de Zárate (1962) knew the species only from Gibraltar and wrote (p90): 'Como localidad de la especie sólo conozco la citada por el autor, Gibraltar, al pie de las fortificaciones sobre el punto culminante del promontorio'; although there are records from Tangier and Ceuta in North Africa (Puente, 1994). Both Kobelt (1883) and Norris (1976) found the species in surveys of Gibraltar.

O. calpeana can be found under rocks, logs and other types of shelter in habitats that range from steppe and garigue to maquis and woodland, principally in areas of the Upper Rock, Europa Point, Windmill Hill Flats and the Mediterranean Steps (Menez, 1993). It is never abundant and where it occurs typical densities in plots of 20x20m are 0.1-1m2. I have sometimes found clusters of 5-10 individuals under the same rock, or log, but this is uncommon. It has a shell height of about 5.0mm (exceptionally to 6.0mm) and a diameter of about 11.5mm (exceptionally over 15mm).

Gibraltar is quite remarkable for land molluscs and in an area of about 6 km2 there are 42 species. There are two other *Oestophora* species that occur here: *O. barbula* and *O. tarnieri*, but, because of its restricted range and name, I like to think of *O. calpeana* as the Gibraltarian snail!

We are lucky in Gibraltar in having robust laws that protect wildlife and *O. calpeana* is afforded special protection (along with other species) in Schedule 3 of the Nature Protection Ordinance, 1991 (Menez, 2005). After my fieldwork session at the weekend (carrying out distribution and diversity studies of land molluscs) it occurred to me that very few people have seen the Gibraltarian snail. And so the main goal of this short article is to show people what it looks like and give a little information about it.

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How much harm does collecting dead shells from beaches do?

Sebastian Payne

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“A few shells were washed over at the water’s edge, small and perfect, but everyone was too ecologically well behaved to pick these up.”

Fowler, Karen Joy, 2004, *The Jane Austen Book Club*, p. 227.

Introduction:

Recently, walking along a beach in the early morning collecting a few shells, I was asked by a fellow beach-walker to “leave the shells there so that the rest of us can enjoy them”. Talking with him, it was clear that he thought that there was a finite and fairly small number of shells on the beach, and therefore it stood to reason that if I and others collected them, there would soon be none left. This is perhaps symptomatic of an increase in a kind of eco-puritanism which sees little difference between the collection of dead sea shells and the collection of birds’ eggs, and makes no distinction between activities which are harmful, and activities which do little or no harm and have greater benefit.

I said that I thought that this underestimated the number of shells on the beach, and the rate at which they were washed up and destroyed; but he stuck to his guns, and I had to admit that I could not quote and had not read any research directly on the question.

As I was staying there for the next three weeks, and have been aware of an increasing tendency for people to question the acceptability of collecting dead shells from beaches, we agreed that it would be interesting to put the question he had asked to the test by collecting shells every day and seeing whether the numbers collected got much smaller, as he thought, or stayed fairly constant as I thought. The results are far from conclusive - the experiment was not long enough (it would have been very pleasant to stay longer ...), the tidal cycle had unexpected effects, and the experimental design could

have been improved. But it is hoped that the paper may be useful in stimulating interest in the question; the acceptability of collection depends on assessing impact against benefit, and we should be prepared to do this and base our decisions on evidence.



Fig. 1



Fig. 2

The beach, and methods:

The beach is at West Railay near Ao Nang (Krabi Province) in Southern Thailand, on the west (Andaman Sea) coast of the Isthmus of Kra (Figs. 1 and 2; Plate 1).

It is a gently-sloping fine sand beach several hundred metres long, facing SW, with steep rocky cliffs at each end. The cliffs end abruptly at sea level; immediately offshore the predominantly sandy sea bottom shelves rather gradually, becoming about 10m deep one kilometre out, and 20m deep at three kilometres. Below the cliffs are areas with fallen blocks and boulders and a muddier more stable bottom. Tidal range varies between ca. 1m and 3m. The weather was generally rather calm at the time I was there, in

December and January (2005/6); the main storms in this area usually happen in the summer months, during the monsoon.

Along the high tide strandline, shells were concentrated mainly at the south end of the beach (Fig. 3), the commonest being small gastropods (mainly naticids, Vanikoridae, cowries and triviids); there were very few shells on the strandline in the northern and central parts of the beach. At the north end and in the central part of the beach, sparse lines of coral and shell fragments in the lower tidal zone just above the break in slope (Plate 2) produced small numbers of shells including larger gastropods and a range of bivalves. Towards the south end of the beach there were lines, cusps and low ridges of broken shell in the mid tide zone: the distribution varied from day to day, with a general tendency for lines and cusps (Plate 3) to form higher up, and for flatter ridges at right angles to the lines

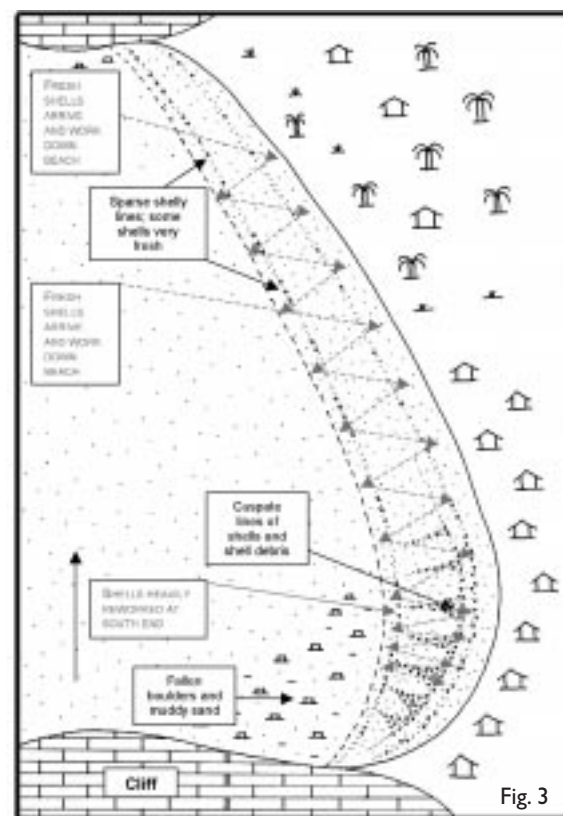


Fig. 3

and to the wave front to form lower down (Plate 4). Most of the shell in these lines and ridges was very broken; more complete shells tended to be concentrated along small curved ridges on the cusps, in “swirl pockets”, and along the upper edges of the upper lines.

The plan to collect and count shells in the same way every day was complicated by two factors – visitor disturbance and tidal variation. The beach was fairly heavily

Corbicula fluminea in the River Thames Mark Davison, Environment Agency

The Asiatic Clam (*Corbicula fluminea*) was first noted in Britain in the River Chet, Norfolk in 1998, and since then it has spread throughout most of the rivers of the Norfolk Broads drainage. Specimens of *Corbicula* were first noted in the Thames by Oliver Whaley at Teddington in 2004.

Recent sampling has confirmed that *Corbicula* is now reproducing in the tidal River Thames. One living juvenile *Corbicula* was collected by the Environment Agency’s Mark Davison in a kick-net sample taken from just below Teddington Lock (grid ref. TQ 1674 7146) on 20th October 2005. The specimen was confirmed by Ian Killeen. The specimen was alive when collected, and although it measured a little over 1mm across it was still recognised amongst the pea mussels collected with it by the presence of a coarsely sculptured shell and a prominent external ligament. Another juvenile was collected there in November 2005. Two further juvenile individuals measuring 1.9mm and 5.4mm respectively were collected on a subsequent visit to the same site on 18th January 2006. A nearby site at Isleworth (grid ref. TQ 1695 7606) also revealed a live juvenile (20th Nov 2005) and dead shell of an adult (12.0mm across) was collected by colleague Kevin O’Connell on 17th February 2006.

The Environment Agency monitors the ecology of the tidal Thames through a network of sites which link into three separate monitoring programs. This record was collected during sampling for the Teddington Low Flow Program, which is a surveillance program developed in response to the need to abstract water from the freshwater Thames for public supply. Sampling is carried out at Teddington, Isleworth, Kew, Barnes and Battersea normally on a quarterly basis. The surveillance program has been running since 1989, prior to the documented arrival of *Corbicula* in Britain.

As flows have been low during the last year sampling frequency has been increased, in an effort to detect any adverse effects of reduced flow. Since the onset of reduced flow conditions last summer, sampling has been carried out on a monthly basis. The EA’s ecological appraisal officers have been attempting to identify most macro-invertebrates to species level rather than the usual family level, in the hope that this increased resolution will assist in the detection of any community changes. Perhaps the increased scrutiny of small bivalves caused this juvenile *Corbicula* to be spotted whereas it might have been previously missed and erroneously lumped in with Sphaeriidae in earlier years.

Other alien species also present in the tidal Thames include Zebra Mussel (*Dreissena polymorpha*), the Chinese Mitten Crab (*Eriocheir sinensis*), oligochaete worm *Branchiura sowerbyi* found near Kew Gardens and the now ubiquitous spiresnail *Potamopyrgus antipodarum*. Further downstream in more saline water are North American ostracod *Eusarsiella zostericola*, Portuguese oysters *Crassostrea angulata*, and a polychaete *Marenzelleria viridis*

The Ecological Appraisal team would welcome any reliable records (and voucher specimens) of the hydrobiid *Mercuria confusa* (*Mercuria* c.f. *similis* in the new Anderson checklist) from the upper estuary. A few specimens were collected by a consultant from the foreshore fronting Fulham Football Club, but a subsequent search for more the following winter was unsuccessful. This may suggest that the original population may have been located upstream, perhaps in reedbeds. The only other known location in the Thames is further downstream in Barking Creek. Contact mark.davison@environment-agency.gov.uk

Disappointed snail enthusiast

Jim Logan writes:

I bought the sweets shown in the attachment and was shocked to find that the packet contained not the snails shown on the outside but only liquorice spirals. Very disappointing.



Incensed, I wrote a poem of complaint and sent it to the Woolworths Customer Service. I am still waiting for a reply. However, I thought that you might like to include the following in the next edition of *Mollusc World* as a warning to any Conchologist who might be tempted to buy this product.

To Woolworths Customer Service dept on buying a packet of their Liqueurice Snails and finding that it contained only spirals

I bought a bag of liquorice snails.
I look inside and my face pales.
I show them to my wife who wails
“You’ve been done! These are not snails.
They have no heads; they have no tails.
How can they claim that these are snails?”

The picture on the packet fails
To show that these are coils not snails.
It shows them with both heads and tails,
Eyes and mouth and tentacles.
It breaks all the laws of retail
To pack a coil and show a snail

Would you sell toy trains without rails?
Would you sell cricket stumps sans bails?
Or Monopoly sets without jails?
Seaside spades with no pails?
So why sell coils without heads or tails
And try to claim that they are snails?

Turritella, and two large naticids; more bivalves including donacids and mastrids and fragile bivalves such as *Siliqua* spp. in very fresh condition; and small numbers of nerites and cowries in fresher condition than any at the south end. This was also the only part of the beach where moribund shells were found.

It seem likely that these are very recently-dead shells, and are the calm-season input to the beach. Smaller reasonably strong shells probably then move southward and upward, arriving abraded in the shell ridges; fragile shells are broken on the way; and heavier shells stay in the lower tide zone except when carried up by storms onto the storm ridge above the extreme high water mark. It would be interesting to look at the effect of collection on this component of the input to the beach, which would require collecting at low tide rather than from the high tide strandline.

Conclusions and general discussion:

Though it is necessary to be cautious for the reasons discussed, the results of this experiment suggest that for this beach, the removal of fairly large numbers of shells from the high tide strandline over a fairly short time caused no very immediate decrease in the numbers of shells on the beach the next day, and thus little damage to the enjoyment of other visitors. It has also been suggested that removing dead shells may be harmful because of the removal of nutrients, and because removing gastropods may deny hermit crabs shells to live in. For this beach neither seems to be a likely problem – it is a limestone area, and hermit crabs are relatively scarce; very few were seen even though apparently suitable shells were reasonably abundant.

Though to many shell collectors this probably seems unsurprising, it is important for us to realise that it is doesn't look the same way to many others.

To respond to this, we need to do two things.

The first is to be willing to do experiments of the kind described here to assess any damage we may

be doing and provide evidence to allow us to balance harm – in this case probably very low – against benefit, and show others that we are willing to do this (funders please note: I would be happy to accept a grant to live on a Thai beach for a year ...) Where harm seems likely to be done – as is almost certainly the case with some live collection – we need to be clear about the need for restraint.

The second is to be clear about benefit. Responsible collection increases knowledge and understanding of the natural world, and also increases public

interest and enjoyment; and it is on these, and public support, that effective conservation ultimately depends.

Call for feedback:

I would welcome any comments from members on the approach used or on these conclusions. Has anyone else carried out a similar experiment, perhaps closer to home? Or is anyone aware of reports of other observations bearing on this question? I would also welcome comments especially from members who have collected from a favourite beach over a number of years and who have relevant personal observations.

List of Figures:

Fig. 1: General location map showing location of study area..

Fig. 2: Chart of the West Railay beach and surrounding area, from Thai Navy Hydrographic Chart (ca. 1930, before the area was developed).

Fig. 3: Sketch plan of distribution of shells on West Railay beach, December 2005 – January 2006, and suggested transport mechanisms.

Fig. 4: Height of last high tide before collection, 16 December 2005 (Day 1) – 3 January 2006 (Day 19). Data from Easytide for Ko Nang, Krabi; heights above ELWS.

Figs. 5-9: Counts of shells collected each day, 16 December 2005 (Day 1) – 3 January 2006 (Day 19):

Fig. 5: Cowries.

Fig.6: Triviids.

Fig.7: Marginellids.

Fig.8: Nerites.

Fig.9: *Lunulicardia hemicardia*.

Thanks: Many thanks to the beachwalker who provided the initial impetus for this project; to Rosemary who put up with antisocial early-morning shell collecting and defended piles of shells from grandchildren; and to Jacqui Huntley, Jan Light, Anthony Long and Jane Sidell for advice and comments on drafts.

used by visitors during the day, especially at week-ends. They collected very few shells – I saw only two or three people collecting shells during the three weeks I was there, and a few children collecting shells to decorate sand castles; but they trampled the beach and the strandlines, especially in the upper part of the beach, making it much harder to see the shells.

Conditions were good only in the early morning, when there was always an almost-undisturbed strandline (and it was cooler); but the amount of the lower beach that was accessible at that time depended on the state of the tide.

I therefore decided to collect in the early morning, and to concentrate on the overnight high tide strandline and a band ca. 2m wide below it; for between one and two hours every morning this band was searched along the whole length of the beach. All complete cowries (Plate 5), triviids (Plate 6), marginellids (Plate 7), nerites (Plate 8), *Lunulicardia hemicardis* (Plate 9), and *Siliqua* spp. (Plates 10) found along this band were collected and removed from the beach. Broken shells were not collected or counted (shells which had lost more than 1mm from a margin by abrasion or chipping were classed as broken and not counted, as also shells perforated by abrasion).

Results:

Shells were collected daily for 19 days. One of two patterns had been expected – if there were relatively few shells on the beach and replacement was slow, the prediction was that numbers would drop rapidly; while if there were more shells and replacement was rapid, the prediction was that numbers would remain fairly constant. Reality (Figs.), as always, was more complicated. Cowries, the most abundant counted taxon, increased very significantly for the first eleven days, reduced very rapidly for the next four days, and then started to increase again. The other taxa were scarcer, and the results less clear, but it looks as if they show similar but not identical patterns. Results for *Siliqua* spp. are not shown as very few were found except in the lower tide zone (see below).

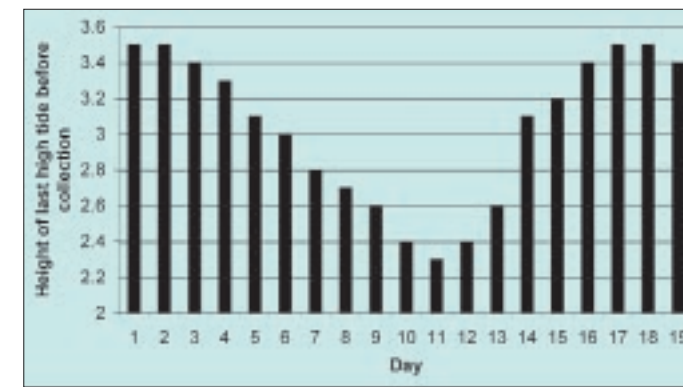


Fig. 4

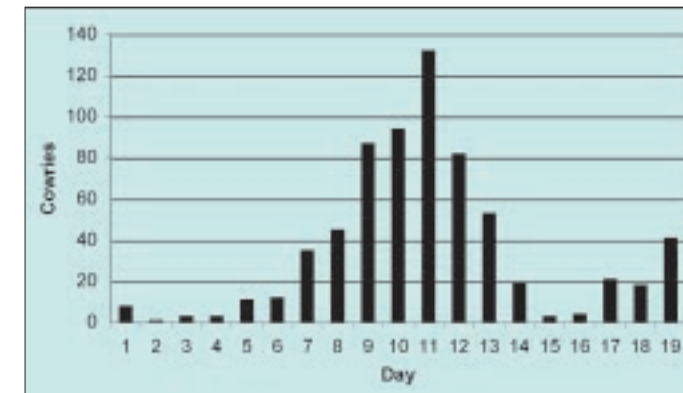


Fig. 5

Discussion of the results:

There is a fairly clear inverse correlation between tide height (Fig. 4) and daily shell counts (e.g. Fig. 5): more shells were found on the high tide strandline during neap tides than during spring tides. The pattern is very clear for cowries, which were the commonest taxon collected; the other taxa show more irregular variation, presumably mainly as a result of smaller sample size, but none show a clearly different pattern. The variation that this creates makes it hard to discern longer-term trends, especially as the data cover only nineteen days – just a little more than a 14-day tidal cycle; however there is no rapid initial drop, as would be expected from an extreme “small numbers / low replenishment” model, and no indication that the numbers during the early part of the second cycle are lower than during the matching part of the first cycle. Few of the shells collected were very fresh even at the end of the period of collection, which argues against very rapid turnover.

One possible explanation that is consistent with these observations, and which would also explain the rarity of very fresh shells (and also of fragile taxa) is that most of the shells found on the strandline are at least several months old, washed up onto the beach during the summer monsoon storms and accumulated in the ridges at the south end, where they are gradually

abraded and broken. Consistent with this suggestion is that the fresher and more complete shells in the shell debris area were in similar slightly worn condition. During neap tides, it is suggested, the wave edge spends a longer time in the mid tide zone washing over and sorting the shell ridges at the south end, winnowing out small complete and relatively light shells and leaving them along or close to the high tide strandline. During spring tides, the wave front spends a shorter time in the mid tide zone and the high tide strandline is some distance above the shell ridges, and so many fewer complete shells end up there.

If this explanation is right, the lack of any clear decline in numbers collected, even though large numbers were removed

(e.g. around 800 cowries and triviids), suggests that there are very large numbers of shells in the shell debris ridges, and that the beach can probably sustain considerably more collection from the strandline than is happening at present without causing much damage to the enjoyment of others. However, this conclusion can only be tentative given the shortness of the experiment. Ideally the experiment would last over several tidal cycles, and would test whether most of the shells in the strandline are much fresher just after the monsoon storms, as would be predicted if the rate of replacement is as high as the explanation given above suggests. Also the design of the experiment would be improved by counting but not removing other taxa as a control.

Other observations:

As already remarked, shell was scarcer at the north end and in the middle of the beach. Such shell as was found there was mostly in the lower tidal zone, in rather diffuse lines of shell, broken shell and small lumps of broken coral. While not collected as part of the experiment reported above, it is worth commenting that these shells differed markedly from the shells at the south end of the beach; there were a few larger shells in fresh condition, including some middle-sized and quite heavy strombids, a very large

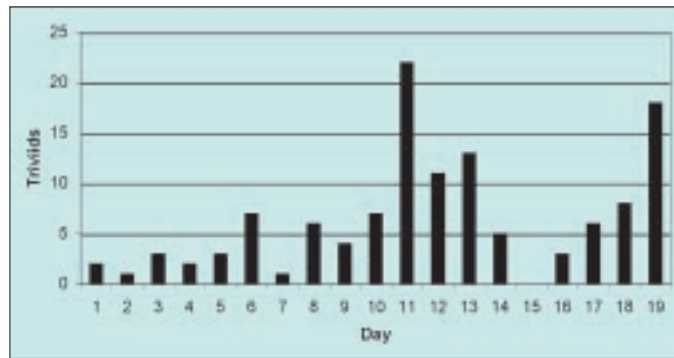


Fig. 6

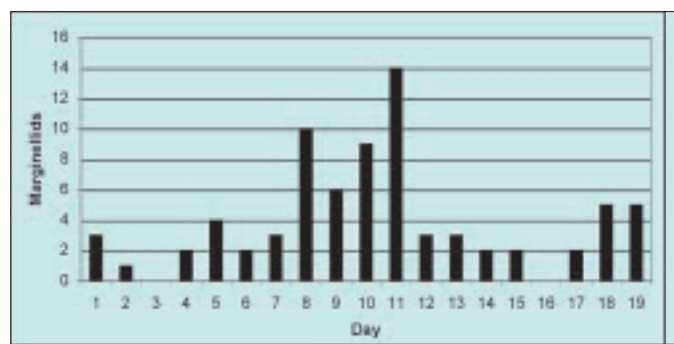


Fig. 7

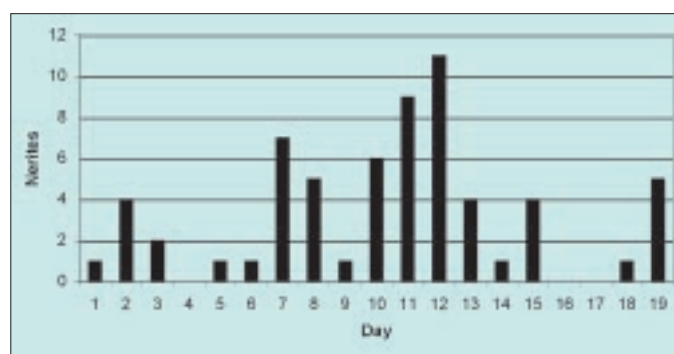


Fig. 8

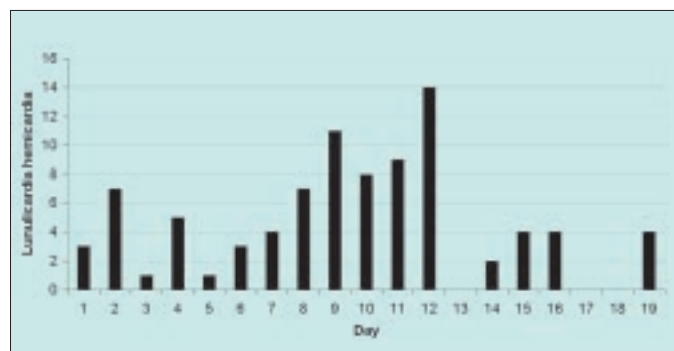


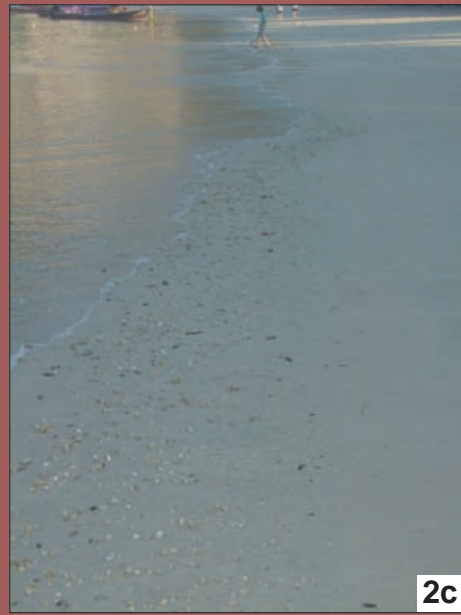
Fig. 9



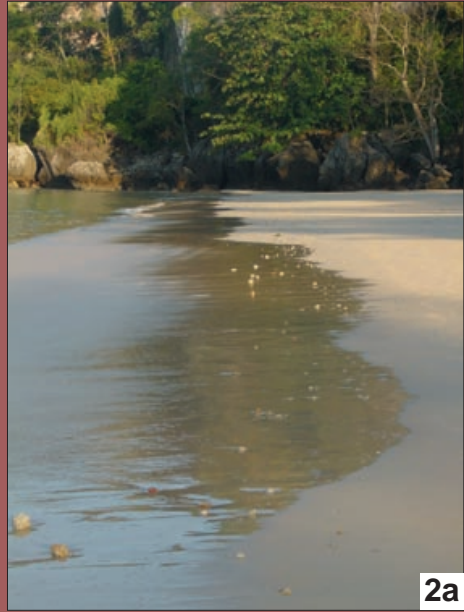
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2b



2c



2a



3



4



5



6



7



8



9



10

Images 1-10 (Plates 1-10) relate to article on Page 10 .

- 1: View of West Railay beach, early morning looking south.
- 2a-c: West Railay beach: sparse lines of coral and shell fragments in the lower tide zone, at the north end of the beach.
- 3: West Railay beach: cusps in the upper mid tide zone at the south end of the beach.
- 4: West Railay beach: ridges in the lower mid tide zone at the south end of the beach.
- 5-9: Shells of collected taxa from West Railay beach:
- 5: Cowries.
- 6: Triviids.
- 7: Marginellids.
- 8: Nerites.
- 9: *Lunulicardia hemicardia*
- 10: *Siliqua* spp.



A



B



C



D

Images A-B relate to article on Page 9.

The Gibraltarian snail, *Oestophora calpeana* (Morelet, 1854), has a restricted range and in Iberia is only found in Gibraltar (its *locus typicus*) where it is afforded special protection in Schedule 3 of the Nature Protection Ordinance, 1991. It has also been recorded from Tangier and Ceuta in North Africa. *Photos: Alex Menez*

Images C-D relate to article on Page 15.

C. Juvenile *Corbicula fluminea* from Teddington (scale bar mm).
Photo: Mark Davison

D. Sample of *Corbicula fluminea* from R. Chet, Norfolk.
Photo: Evelyn Moorkens