

We welcome as Guest Speaker Geraldine Holyoak from Camborne on the subject of 'Land molluscs of Malta'.

**WKSHP – Saturday**  
25 November

#### Annual Molluscan Workshop

This meeting is being held by kind invitation of Judith Nelson at Hilbre House, Pembroke Road, Woking, Surrey GU22 7ED (01483 761210) from 10:00h prompt until approximately 17:00h

Please note Hilbre is a non-smoking property.

Those attending should please bring a microscope and lamps (a few microscopes are available if booked in advance),

Petri dishes or other dishes for sorting purposes, a fine water colour paint brush (00), tweezers/forceps, dissecting tools, if possible an extension lead and/or double electric plug, books to help identification, and a packed lunch. Coffee, tea and biscuits are provided.

As numbers for the workshop are limited, please confirm any booking made by 1 November so that it can be checked whether there are any places vacant. Those NOT confirming by 1 November will be taken as not wishing to attend and their place will go to someone else. No reminders will be given. A fee of £5 will be charged to cover expenses.

PLEASE BOOK EARLY.

The programme for November 2006 is as follows but subject to change:

#### PROBLEM BIVALVES

*Pisidium* from samples. Tutor: Adrian Rundle  
British *Spisula*, Ostreidae and Veneridae-Tapetinae. Tutors: Celia Pain and Rupert Honnor.  
If you would like any other subject dealt with, please inform Judith by 1 November.

**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 -----?'

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# Mollusc World

ISSUE No.11

JULY 2006

## The Fighting Snail

Giles Watson

Two tailors took a walk one spring  
Outside in the garden.  
The first one cried out, "Gods defend us!"  
The other one said, "Pardon?"  
"Oh! We are doomed!" the first one groaned,  
"Oh! Doomed!" did he bewail,  
For on the ground in front of them  
There sat a slimy snail.

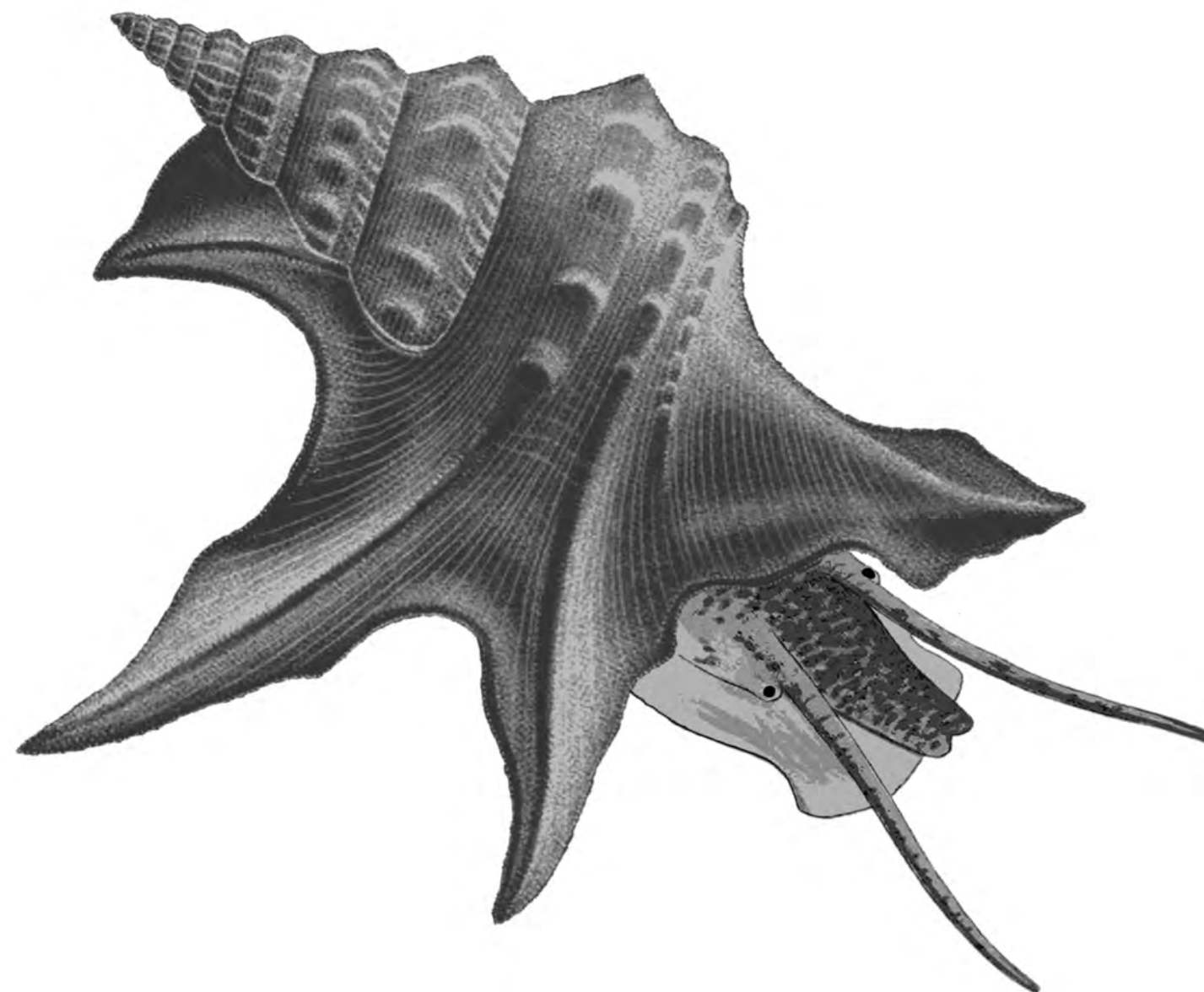
*Chorus:*

Helix pomatia and aspersa!  
Things are getting worse, and worse!  
Nemorialis and hortensis,  
Sliding o'er the garden fences!  
Grim pulchella, aculeata,  
Rupestris foul, and rotundata!  
It's drizzling, there is no sun!  
Oh! Horrors! My heart fails!  
The garden has been overrun  
By marauding SNAILS!  
"Oh Cripes!" the second tailor screamed,  
"Oh what a fearful sight!"  
While with his pin the first one stabbed  
The horrid hermaphrodite.  
"Go—go away!" the second said  
With a nervous stutter,  
Or my friend will have your foot  
Sauteed in garlic butter!"  
But still the snail sat in its shell;  
It didn't even blink.  
"If we're defeated by a snail,  
What will the neighbours think?"  
The first one poked it with his scissors,  
The second with a knife,  
But sorely tempted were the men  
To run for dear life.  
And then the snail stuck out its head;  
The tailors blanched with fright,  
For they had jousted ne'er before  
With a snail in all its might.  
"Oh we will call on thrushes all  
To come down in a flock,  
And smash your shell to smithereens  
Against a piece of rock!"  
But slimly the snail advanced,

(It was not in a hurry),  
And both the tailors' sweaty brows  
Were quite furrowed with worry.  
Its foot began to undulate;  
Its horns waved in the air,  
And its eyes came out on stalks  
The tailors for to scare.  
Then the tailors ran like hell;  
They even pooed their britches:  
It dribbled halfway down their legs  
And oozed out from the stitches.  
And still the snail lumbered on,  
Undaunted by the foe,  
The tailors hid inside their house  
And cried aloud with woe.  
Then up rode bold Sir Ponsonby  
Upon his charging steed;  
He really was a dashing sight,  
The tailors both agreed.  
His lance he pointed at its shell,  
His sword aimed at its heart,  
Sir Ponsonby cried, "Snail, prepare,  
This world to depart!"  
But then the knight stopped in his tracks,  
He gave an awful start,  
For the snail had taken careful aim  
And shot him with a dart.  
He swooned amid the cabbage patch;  
His palfrey ran away,  
And loudly all the slugs proclaimed  
The snail had won the day.

**Source material.** Snails such as *Helix aspersa* fire darts at each other in amorous rituals before mating. Many medieval carvings, such as one on a misericord in Beverley Minster, depict knights and other men in combat with snails.

Giles Watson (2005), in 'Watson, L., and Dallwitz, M.J. 2005 onwards. The families of British non-marine molluscs (slugs, snails and mussels).  
Version: 23rd October 2005.  
<http://delta-intkey.com>'.



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THE MAGAZINE OF THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN & IRELAND

# "Have a good field season"

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:

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## 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

Please pay by one of:

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](mailto: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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## Field Meeting Report

### Anglesey and the Lleyn Peninsula

26 – 29 April, 2006

Tom Clifton

Considering the type of winter we have had this year, it was a great relief that the weather and tide conditions for this April meeting could not have been better. Although there was some wind, it was sunny throughout the event and the high atmospheric pressure meant that tide levels were lower than expected. There were 12 society members present for most of the events but we were also joined by four other people from time to time making a maximum of 16 people.

The society members were:- Dr Julia Nunn, Celia Pain, Ken Hill, Peter Topley, John Llewellyn-Jones, Ron Boyce, Dr Janice Light, Rosemary Hill, Christine Street, Mike Weideli, Ben Rowson and myself. We were joined on some events by three members of the Countryside Council for Wales, namely: - Mr D P Brazier (Intertidal Survey Team Leader), Katherine Birch (Marine Biodiversity Liaison Officer) and Gabrielle Wyn (Intertidal Biologist). Also present was Dr Ivor Rees (formerly of the Marine Sciences Dept at Bangor University). With this eminent team of biologists, the weather, tide conditions and some very interesting shores, we all had a thoroughly enjoyable event.

### Wednesday 26 April.

1: Newborough Warren – non-marine. Nine members assembled at the car park adjacent to Llyn Rhos-ddu SH426647 for the survey of the warren. Newborough Warren consists of 700 acres of calcareous sand dunes and slacks making it one of the largest in Wales and is situated next to Newborough Forrest to the north, an area of mixed pine of similar size. There are small recent dunes along the southwest shoreline with larger and older dunes inland and separated by slacks (low level wet areas). To the south is the southern entrance to the Menai Straits at Fort Belan where there is a vast area of salt marsh and tidal sand flats. Because of the size and richness of this area and the limited time available before

the start of the marine event, we could not do this area justice. Some members of the group divided off to visit salt marshes on the north side of the forest at Malltraeth Sands. In all three non marine and one marine survey was carried out resulting in nine live and two shell non marine records and three live marine records. Of the marine records, one of particular interest was *Limapontia depressa* found on the salt marsh though not a new record for this area.

2: Traeth Mawr (Aberffraw) – marine. 12 members met for this event at the Aberffraw Dunes car park SH357690, just outside Aberffraw. The normally rich shell bank and shell sand at the mouth of the Afon Ffraw was disappointing as was the case at a number of sites, this is probably due to the exceptionally high tides on the previous tide cycle. However, the group split into two, which resulted in three separate surveys and species lists. Some interesting live species were found such as *Rostanga rubra*, *Caecum glabrum* and again *Limapontia depressa* on a small area of salt marsh at the mouth of the river. Though they were not new records for this area, they were new to me and their discovery was interesting and helpful. There may be three new records for Anglesey from here but they require verification. This site did show an example of how *Osilinus lineatus* is gaining ground in many areas of southwest Anglesey and the Menai Straits. In 2003, I recorded it as live and common from here, on this occasion it was abundant with many juveniles. Such is the case in many areas and shortly after this event; I found it to be live and occasional between Menai Bridge and Bangor on the mainland side. I have also recently found it as live and rare on the south shore of Great Orme, which is a new record for the Liverpool Bay sea area.

### Thursday 27 April.

3: Llyn Maelog near Rhosneigr – non-marine. 12 people met for this site just outside Rhosneigr SH322728. Llyn Maelog is a public access fresh water lake and is popular for anglers. Eight live fresh water species and one live terrestrial species were found here. Along with these was a good collection of perfect pairs of valves of *Anodonta anatina* and *Anodonta cygnea* (duck and swan

mussels) (Fig 1), which we were told by a local landowner, were live and common in the lake.

4: Rhosneigr – marine. 16 people met in the car park in Rhosneigr SH318730 for this survey. Although the shell sand was again disappointing, this site for me was probably the highlight of the meeting. What would have been the lower shore lake surrounded on all sides by rocks and islands and treacherous when the tide is rising, due to the extra low tide, drained down to just a few inches deep revealing an area of lower shore rapids which, I believe was a rare sight (Fig 2). It was also an excellent opportunity for the group to meet the team from CCW and new contacts have been made as a result of this, it was also a stunning location for all flora and fauna, adult lobsters were walking around our feet. *Osilinus lineatus* was again live and abundant on the upper shore rocks and there were many interesting live species observed such as *Diodora graeca*, *Elysia viridis*, *Polycera quadrilineata*, *Clausinella fasciata*, *Berthella plumula* and *Archidoris pseudoargus*.

### Friday 28 April.

5: Nefyn (Lleyn Peninsula) – marine. 10 people met here on the beach car park SH302407. By now I was very doubtful about finding the normally rich shell sand here. On this flat and very shallow gradient shore of sand and stones, the shell sand does not always accumulate, especially after very high tides. After a brisk look at the upper shore, the tide was still very high at this time, it was decided to abandon this site and try to get shell sand from a more reliable location. A small group went on to Porth Towyn, a small sandy bay several miles further down the Peninsula at SH230375. This is an area which has always provided good shell sand and so it did again. Thanks to Christine's deliberations two new records for the Anglesey sea area were found, *Rissoella opalina* and *Jordaniella nivosa* with a possible third new record to be verified.

6: Porth Dinllaen – marine. 11 people met at the National Trust car park at Morfa Nefyn SH282407 from where we walked along the beach to Porth Dinllaen (Fig 3). The bay at Porth Dinllaen supports an extensive area of eelgrass *Zostera marina* and was expected to be the highlight of



the meeting. The eelgrass was disappointing, the existence of brown algae suggested that the grass was not being grazed. The site did however yield up some interesting observations. *Rissoa lilacina* was found live on lower shore algae along with one live *Arctica islandica* and two live *Colus gracilis* (Fig 4). Large numbers of *Hinia reticulata* were feeding on dead *Ensis* (Fig 5) and there were a lot of predated specimens lying around. From sievings of sand close to the *Zostera* bed, Jan Light retrieved three specimens of an intriguing pyramidellid. The shell most closely resembles *Odostomia turrita* but the golden colouration of the animal inside is both startling and unfamiliar (Fig 6). Does anyone recognise this snail?

#### Saturday 29 April.

7: Assessment of shell sand and weed washings. Most of Saturday and the previous evenings was spent at my home at Seaspray in Benllech assessing shell sand and weed washings, a particularly enjoyable part of the meeting for me. Five microscopes were set up in the lounge (many thanks to those who brought them along), and the sink was full of weed washings etc. whilst other items were being boiled on the cooker. A neighbour kindly provided a buffet lunch so that we would not have to break off to prepare food, sadly I have no photographs of this.

8: Barras (Menai Strait) – marine. For the final event seven of the group met at Barras on the Menai Strait (Fig 7)

SH480655 adjacent to the oyster farming area. Mr Shaugn Krinjen who runs the oyster farm spoke to the group about mussel and oyster farming in the Menai Straits and allowed the group to look round the area where the oysters were being farmed. Various species have been tried in the past, presently Pacific Oysters *Crassostrea gigas* are being farmed in baskets on trestles at the lower shore where there is a good flow of water (Fig 8). The mussels are farmed about half a mile down the Straits so that they do not choke the oysters and have a turn over of about three years so there is no problem of pearl formation.

The oysters *Crassostrea gigas* grow rapidly in this area due to the flow of water, those that do not grow to a satisfactory size are thrown onto the shore where in many cases, once free of the baskets grow to enormous sizes but are no longer of commercial value. An article from a local paper reports that one of Shaugn's oysters entered the Guinness Book of Records as the heaviest in Britain at 1.4kg and was around 30 years old.

It was here that we saw New Zealand Oysters *Tiostrea lutaria* (Figs 9 & 10) living wild and abundantly in the Straits. These were introduced some years ago by the Ministry of Agriculture and Fisheries but although they grow faster, larger and breed more profusely than in New Zealand, they were found to be prone to disease and were discontinued. They now occupy several miles of shore

in the Straits and are now in parts of the south coast of Anglesey. They attach themselves to any hard substrate they can find even to each other and to shells of *Crassostrea gigas* and produce beautiful formations and in some areas they are forming reefs. One new record for the Anglesey sea area from here is *Ruditapes philippinarum*, once farmed here but now living wild.

In all, 10 marine and 6 non-marine surveys were carried out and record cards completed though not all species lists have been received. Eight new records for the area have been reported though some need verification. Once all the lists are in and new records verified, a full-illustrated report with species lists will be available for anyone on request if you contact me.

I would like to thank everyone who participated in this meeting, for travelling the long distance to Anglesey and helping to make it such an enjoyable event, also a special thanks to Margaret and Bill for providing the buffet lunch. I also thank Mike and Jan for a crash course in learning to use the computer programme Recorder 2002. This now means that I can set to work on computerising the large dataset of mollusc records that I have been compiling since I started marine mollusc recording in 1975.

Tom Clifton.  
Clifton@seaspray.fsnet.co.uk

## Annual General Meeting 31st March 2007 (provisional)

Members are reminded that they can nominate candidates for election to the Council.

**Rule No. 12:** "Candidates for nomination to Council shall be paid-up Members of the Society when nominated and when the votes are counted at the Annual General Meeting and shall be nominated by two Members. Nominations, other than those made by Council, shall be sent in writing to the Hon. General Secretary at least three months before the Annual General Meeting and shall be accompanied by a signed declaration of the candidate's willingness to serve".

**Note:** Nominations must be received by the Hon. General Secretary NOT LATER THAN 30th November 2007.

## A snail full...

The College of Surgeons, in the mid 17th century during the time of the Commonwealth, apparently still persisted in using antiquated measurements for the dispensing of medicine. One such unit of capacity was the "cochlearium", which meant "a spoonful", the spoon in question being that used to extract snails from their shells (*cochlea* is the Latin for snail).

Peter Topley

## Essential infrastructure verses habitat destruction – drystone walls in Majorca Adrian Norris

Over the past few decades Majorca has successfully changed its image, and now no longer deserves its former reputation for downmarket package holidays. Majorca is, at present, building a reputation as a more dynamic holiday venue, built around outdoor activities, with a better quality holiday experience. The island has been greening its image, by protecting its environment, with large parts of the Serra de Tramuntana now protected against unwanted developments. The protection of the mountainous areas, and the reputation of its prime nature reserve the Parque Natural de S'Albufera as well as several smaller reserves, has changed the visitor profile of the holiday market. Large numbers of visitors are now exploring the Island by coach, car and even bicycle.

These developments have put pressure on the road systems, particularly those across the central plain, an area of farming communities and small industrial towns. Thus many hundreds of kilometres of new motorways have and are still being built and smaller roads widened across the central plain. This essential new infrastructure has resulted in many hundreds of kilometres of traditionally-built drystone walls being removed and rebuilt, much wider apart, using more modern building techniques.

In January 2006 I had the opportunity of examining a large number of these walls, both old and new, and what I found suggested the importance of a wider study of these walls being undertaken before more major road networks are developed to satisfy the demands of the ever increasing numbers of visitors.

Many of the smaller roads are narrow by modern standards and the passage of time has eroded some drystone boundary walls to a state of semi-collapse, whilst others have almost vanished. Trees and other vegetation have also added to the mixture of cover and protection some of the walls have against the prevailing winds and the desiccating heat of the sun. All of these factors may help to increase the demands for replacement walls and wider roads, particularly if accidents start to occur.

Traditionally the drystone walls are mainly made of limestone and appear to have been filled with small stones and loose limestone chippings, often finished off on the top with a layer of chippings. The modern replacements are narrower and are usually filled with concrete and finished off with a concrete cap into which a metal fence is placed extending the height of the wall considerably. The old traditionally built walls proved to have a rich molluscan fauna with the richest of the walls I examined containing over 15 species, whilst the older examples of the modern walls I examined produced very few.

These walls are an important part of the biodiversity of the island, and as such some protection of the older drystone walls may need to be instituted. In Majorca, for example, *Pyramidula rupestris* appears to be confined to a very small number of drystone walls sited on the central plain. Many other species also occur on these old drystone walls suggesting that they are a major, if rather neglected, habitat, and one which could very easily be lost if the present pace of development continues. Those species found on the walls include the endemic *Iberellus minoricensis* which occurs in a number of places in the south-west of Majorca. *Granopupa granum* which proved to be very common on the tops of those walls finished off with a layer of chippings and *Tudorella ferruginea*, although common in some other habitats, are also most easily found alive on the older drystone walls. Other species included the *Vallonia* and numerous xerophiles including *Trochoidea elegans*.



1



2



3



4

1 & 2. Old wall near Palmanyola, Majorca  
3 & 4. Replacement walls near Cala Fornells, Majorca (pair of photo's)  
5. *Tudorella ferruginea* on wall near Llubi, Majorca. See page 14, Fig. 12.

Photos: Adrian Norris



# Shells at Newhailes

## Rosemary Hill

If you are visiting the Edinburgh area, it is worth going out to the National Trust for Scotland property of Newhailes near Musselburgh. This property was extended and decorated by the Dalrymple family who lived there from 1709 and has seen relatively little alteration since. The policy for the maintenance of the building is to do as much as is necessary but as little as possible. Sir James Dalrymple added the library wing to the house and commissioned much of the interior decoration which features many shells. So many that one child going round the house counted 286 before he gave up. Baskets of tropical seashells feature in the rococo plasterwork of the entrance hall. Gilded scallop-like motifs often feature in the decorative mouldings surround the oil paintings. More originally, the family collected many scallop shells (*Pecten maximus*) from the shore which were gilded and fastened in columns and rows around the walls. The original gilded door handles feature a spider conch motif with a small gastropod (like *Hinia reticulata*) which

when turned bolts the door. The ground of the house still contain the most complete shell grotto building in Scotland, dating from the 1760s but with the decoration not completed until the 1790s. The exterior of this grotto was made of large boulders and slag, intended to give it the appearance of a volcano. There is evidence of a pit behind the grotto for lighting a fire, both to keep the occupants of the grotto warm and also for the production of atmospheric smoke. The interior was once panelled in wood covered in plaster, in which were embedded shells, fragments of glass and minerals such as agate, quartz and garnet. The shells were collected by the Dalrymples from the nearby beach and as far away as China. Unfortunately the interior of the grotto was burned and vandalised in the 1950s-60s (before the NTS acquired Newhailes) but photographs remain. As the estate grounds are freely open to the public it would seem unlikely that the interior of the grotto will ever be restored.

The house retains much of its original furniture including the contents of the cabinets and chests. Caches of local seashells have been found in these, suggesting that successive generations, just like us today, could not resist bringing them home from the beach.

## *Eobania vermiculata* in the UK

### David Notton

The Natural History Museum, London,  
d.notton@nhm.ac.uk

A live specimen of this Mediterranean species was recently found by the author on Lewisham railway station, London, grid reference TQ 380 759, 22.iv.2006, on a wall behind the ticket office. The identification was kindly confirmed by Peter Morden of the Natural History Museum, London. It was an almost mature specimen at 21 mm maximum

diameter, although lacking the thickened rim around the mouth of the shell. It appears that it was a one-off as no others were seen nearby. How it got there is unclear; perhaps it stowed away in someone's holiday luggage?

Below is a reply to a letter I sent to DEFRA:

Dear Mr Notton

Thank you for your e-mail of 26 May regarding a non-native snail (*Eobania vermiculata*) that you recently found.

I have asked our scientific advisors about this species and they inform me that your sighting is possibly the first in the UK. It originates from Southern European and Mediterranean countries, but has been introduced into Australia, South Africa, Egypt, USA, Turkey and Germany. Introduction in these countries can most likely be attributed to escapes from the food trade, imported through agricultural harvest and the import of tiles from Italy (pallets having been stored in fields where the snail can hitchhike before import).

It is difficult to know whether this species could establish itself in the UK and whether it could become a pest. However, it has no protection under UK or EU legislation and can therefore be controlled. In addition, the Wildlife and Countryside Act 1981 makes it an offence to release or allow to escape into the wild any animal that is not ordinarily resident. Therefore, anyone who released this species into the wild, or who did not take sufficient measures to prevent its escape, could face prosecution.

Currently there is no central place to which sightings of non-native species can be directed, although you could report them to your local English Nature office or to this office in Defra. In the future, this role could be subsumed into the role of the Secretariat for the recently established Non-native Species Programme Board (a cross-government co-ordinating body for non-native species policy and action).

I hope the above information is helpful, but if you have any further questions, please do not hesitate to contact me.

Yours sincerely

**Tom Cadman**, Species Policy Officer, Wildlife Species Conservation Division, Defra

## The Trials and Tribulations of Amateur Taxonomy

### Jim Logan

It all started with an e-mail from the local University. They had heard that I was interested in seashells and one of their research students had found a mass of snails in a salt marsh that they were studying. Could I identify them? Easy, I thought, the only small salt marsh snail occurring in large numbers around here was *Hydrobia ulvae* so that was probably what it would be. They sent me a sample of the snails.

Unfortunately they were only packed in a plastic bag inside an envelope and had been converted from three dimensional snails to two dimensional mush in the post. I arranged to pick up another sample. When I looked at them under the microscope they were obviously not *Hydrobia ulvae* and I could not trace them in any of my shell guides. I did what I always do when doubtful or baffled by shells – I phoned my old friend and contact in the Conchological Society, Celia Pain. She was about to go off on holiday for three weeks so suggested that I e-mailed her a photo. It is not easy to photograph an 8mm long snail. After several abortive attempts I gave up and tried scanning it in instead. Success! Not brilliant but not bad. I e-mailed it off to Celia.

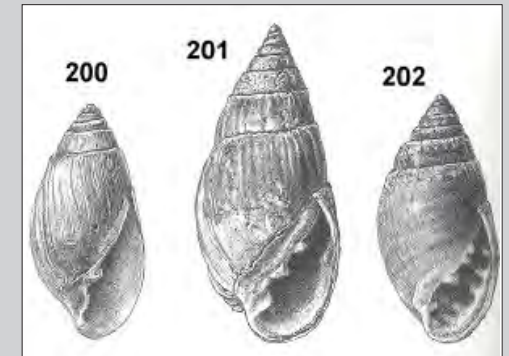
Meantime I thought that I better preserve the snails. How? I had heard that 70% industrial ethanol was the ideal medium

but the local chemist said he was not allowed to sell me that. He suggested surgical spirits which is mainly methanol. I diluted it and popped a few snails in. It turned milky and the snails became coated in gunge. I looked at the label. Surgical spirits contains castor oil and other things which seem to precipitate out when you add water. Also it stinks out the whole room when you are working with it. How about Vodka? That is ethyl alcohol – more like 40% than 70% but it might work. You get a very odd look when you ask for a quarter bottle of the cheapest Vodka at the off-licence

The Vodka seemed OK. So I put the rest of the snails in and had another look at one. After some time I thought I had managed to identify it. Small salt marsh snail, no operculum and 2 columellar teeth – *Leucophytia bidentata* ..... except that it was the wrong colour and too large.

Quick e-mail to Celia who discussed it with John Llewellyn-Jones and replied “Thanks for your message, you are nearly there, they are the closely related *Phytia myosotis*.” I looked up *Phytia myosotis* in the keys. It was the right size and colour but, hang on, *P. myosotis* has 3 columellar teeth and 2 to 3 teeth inside the outer lip. I examined several more specimens and was even more confused. Although most of them had 2 columellar teeth a few had a vestigial third tooth. None had even a hint of a tooth on the outer lip. I was beginning to contemplate another use for the remaining Vodka.

Then I remembered that the Natural History Museum in London used to provide an identification service. I parcelled up a batch of vodka soaked



snails and sent them off with a covering note. Two days later I received the following e-mail:

“The species that was known as *Phytia myosotis*, has now been split in to two species *Ovatella myosotis* (which does not have any teeth on the outer lip) and *Ovatella denticulata* (which does have teeth on the outer lip). *O. myosotis* (also known to be generally larger than *O. denticulata*) is known to show a great deal of variation in the degree of tooth size/development on the columella which again may be where there was some of the confusion when you tried to identify your specimens.

Attached is a figure from Freshwater Molluscs of the Netherlands by E. Gittenberger *et. al.* that helps to demonstrate the variation between these species.”

200 *Leucophytia bidentata*  
201 *Ovatella myosotis*  
202 *Ovatella denticulata*

That was it! I sank back into my chair relieved. Putting aside the vodka I poured myself a glass of malt whisky to celebrate. My thanks to Celia Pain, John Llewellyn-Jones and Jonathon Ablett (NH Museum) for sorting out this problem.

## Don't bet on snails

A strange ritual is recorded at the Godolphin estate in Cornwall, which, folklore has it, originated as the result of a race between two snails. At sunrise every Candelmas, which is 2nd February, the Reeve (like a Steward) of Lambourne manor, carrying a staff, rapped on the courtyard gate of Godolphin Court, declared himself loudly and was let in. He did this again at the great hall porch. He would then jump on the table and demand the 'rents duties and customs' due to Diocese of Lambourne in Peransand from the lands of Godolphin. This was duly paid in the form of 2s 8d, a large quart of strong beer (worth sixpence), a loaf of wheaten bread and cheese of the similar value. First recorded in the 18th Century this custom

goes back many hundreds of years probably to the 1300's. Local folklore has it that Godolphin and St Aubyn wagered their respective seats on the outcome of a race between two snails. When Godolphin found himself in serious risk of losing he pricked his snail in desperation and it curled up leaving St Aubyn the clear victor. Instead of insisting on the terms of the bet, so the story goes, St Aubyn settled on the imposition of the annual custom as an irritating reminder of Godolphin's foolishness.

The custom continued until 1921.

Godolphin house and gardens are privately owned, but open to the public for much of the year. Details can be found at [www.godolphinhouse.com](http://www.godolphinhouse.com).





## Baker Hudson and some notes on *Cepaea*

Peter Topley

About 12 years ago I obtained a copy of John Edward Gray's 1857 edition of William Turton's "Manual of the Land and Freshwater Shells of the British Islands". The book is a "working copy", the binding is loose and some pages are taped, but it also has many notes in the margin and a couple of pages of handwritten interfoliations, one of which is signed "B.H. Mb'bro. Oct 1884". A later hand has made a note in pencil "BH = Baker Hudson". I was intrigued by this, not the least reason being that I always like to try to imagine the people who have owned a book before me. Coins pass through perhaps thousands of hands during their time in circulation, books usually have far fewer owners and those that are well used and written in, although they have little interest for collectors, hold a certain fascination. For a few years I put aside the thought of investigating further the author of the handwritten pages as other priorities took over, but more recently I have been able to find out more.

Baker Hudson was born in Newcastle in 1854. His wife's name was Edith (she was apparently a descendant of Captain James Cook) and they were married at the old Middlesbrough Roman Catholic Cathedral. As a young man he is described in the census records as a "Post Office Clerk" (this was in 1871 when he was living with his mother, aunt and great aunt in Elvet, Durham) and then "Commercial Clerk" (1881), but his obituary in the Sept 1st 1925 edition of *The Naturalist* states that he was appointed Librarian at Middlesbrough "36 years ago" (i.e. c.1889) and the 1891 census confirms this. This corroborates the "Mb'bro...1884" after the initials in my book. Baker Hudson was a member of the Cleveland Literary and Philosophical Society Field Club. This club donated objects and specimens in the late 1860's to create a museum at their premises on Corporation Road. In 1890 the collection was given over to the Free Library Committee, of which Baker Hudson is likely to have been an active member. Following expansion and additional donations a purpose built building became necessary and this was eventually presented to the town by Sir Arthur Dorman and opened in 1904 as the Dorman Museum. Upon the foundation of the museum, Baker Hudson was appointed as its first curator until his resignation 19 years later at the age of 69. He was particularly interested in conchology and notes on that subject appeared in *The Naturalist*, but from 1883 to 1887 he also

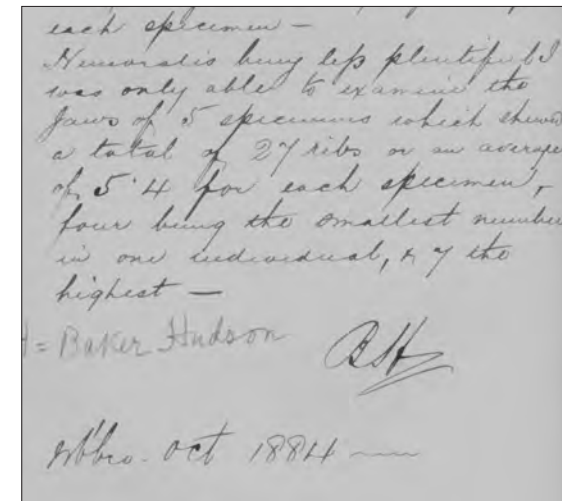
contributed notes on the Land and freshwater Shells of Middlesbrough to *Science Gossip* and perhaps more importantly a small number of communications on non-marine molluscs were published in *The Journal of Conchology* (see list).

Dorman Museum confirmed that the handwriting in the book matched their samples of Baker Hudson's script in their collection. The date of the notes in the book coincide with the period of Baker Hudson's conchological publications and I have not been able to discover any more publications after the time he was appointed to the senior librarian post. This appears to indicate that after this period he may have had less time to devote to his interest, however Hudson becoming secretary of the conchological section of the Yorkshire Naturalists' Union in 1888 indicating continued activity in this area. In the front of my copy of "Gray's Turton" another hand has written "an old book from an old friend, Christmas 1902", so it is obvious that Baker Hudson no longer owned the book at this time.

It is clear from the subject of many of the notes that Baker Hudson was interested, like many other Victorian conchologists, in the possibility of new subspecies and forms of common non-marine snails. For instance, in the margin of the description of the pond snail "*Limnaeus pereger*" (now *Radix balthica* L., 1758) Baker Hudson has listed his knowledge of no less than 16 named "varieties" of this species, and he has repeated this for many other species described in the book. However the majority of his comments concern the banded snails "*Helix*" (now *Cepaea hortensis* and *nemoralis*). For instance he refutes Gray's quotation from Sheppard indicating the possibility that the curvature of the love dart of *C. nemoralis* is related to the number of bands on the shell, saying that his own observations agree with those of other authors (he quotes here Ashford, *J. Conch* 4:164 and Schmidt) that this is definitely not the case and any variation is probably artificial. He was also interested in whether brown-lipped *hortensis* were really a result of hybridization between the two species. Gray and other authors even called such specimens by the specific name "*Helix hybrida Poiret*".

Baker writes, "My own observations herein have not been very extended, all the specimens examined being taken at Durham. The shells were of the size of *hortensis* with which species and *nemoralis* they were associated, the latter species being far from abundant – Their colouration was a uniform rich purple with tinges of yellowish brown and the lips of a pinkish to purple tint. The size of the shells varied from 21 to 25 thirty-seconds of an inch in diameter & from 13 to 17 thirty-seconds of an inch in height. An examination of the jaws showed the following result: 10 specimens; 4 had 3 ribs each and 6 had 4 ribs each giving a total number of ribs in the 10 of 36 or an average of 3.6 to each specimen. The darts showed the specimens to be a var. of *hortensis*. Only two specimens were noted as to the mucous glands. They showed the total number of branches to be 7. The jaws of 37 specimens of *hortensis* were examined & the total no. of ribs was [? unreadable] giving an average of 3.5 for each specimen. *Nemoralis* being less plentiful I was only able to examine the jaws of 5 specimens which showed a total of 27 ribs or an average of 5.4 for each specimen, four being the smallest number in one individual and 7 the highest." Nowadays the characteristics of the darts and the number of branches to

the mucous gland are still recognized as important characters to separate the species, but although rare hybrid characters are sometimes observed a hybrid "species" has not been recognized in modern literature and the importance for identification of



variation within populations and type of habitat is also recognized. Nevertheless it is clear that Baker Hudson was carrying out his own research in a small way in the 1880's and coming to his own logical conclusions whilst confirming the published findings of others working at that time.

## The *Phenacolimax major* Survey – an update

David Long

A survey to check the status of the Greater pellucid glass snail, *Phenacolimax major*, was publicised in the autumn of 2003 (*Mollusc World* 3 p.3) and has now run for 3 autumn/spring seasons. The purpose of the survey is to check on the status of the snail which has been recorded in the past from Cornwall and Brecon to Kent. Eight volunteers have been provided with details of old records for parts of its known range, usually near where they live.

So far success in re-finding the species has been in the north-west part of its recorded range from the Black Mountains (Pwll y Wrach nature reserve) and Brecon Beacons to the Wye valley near Symonds Yat and the mid Cotswolds. The best

time to search has been from March to May (though earlier records extend from September (juveniles) to July) It is noticeable that it is often found in small hollows under fallen logs or stones, though it does also turn up in damp leaf litter.

Despite extensive search in Worcestershire and Warwickshire by Rosemary Hill and Ron Boyce it has not yet been found outside its known range.

No survey records of *P. major* have come so far from England east of the Severn apart from the Cotswolds. It is these areas which seem to be most at risk from drying out due to climate change and to disturbance whether by site management or leisure activities, and these are the areas where I would most like volunteers to search.

Many thanks to Keith Alexander, John Fleming, Ron Boyce, Rosemary Hill, David Porter, Tony Smith, and Graham Long for volunteering.

**Baker Hudson's publications in the *Journal of Conchology*:**  
1885. Occurrence of *Hartmannia septemspiralis* (Razoumoucky) and *H. patula* (Drap.) in England. 4: 353-355.  
1886 Notes on the land and freshwater mollusca of the lower Tees. 5: 46-48.  
1887 Description of a new variety of *Planorbis carinatus* Mull. 5: 249.  
1887. Hogg's list of the mollusca of the neighbourhood of Stockton-on Tees. 5: 256-260

### References

**Cameron, R.** 2003. Land Snails in the British Isles. Field Studies Council.  
**Turton W.** 1857. Manual of the Land and Fresh-Water Shells of the British Islands, new edition by J.E.Gray, London.

### Acknowledgements

I would like to thank Ian Stubbs, assistant curator of the Dorman Museum, Middlesbrough, for providing the photograph of Baker Hudson, confirming the handwriting as his and for further biographical details. Thanks are also due to Peter Dance and Adrian Norris for pointing me in the right direction and providing much useful information.

## Non-marine recording - new arrangements

On 13th April 2006, Geraldine Holyoak resigned from her post as Hon. Non-marine Recorder on the Council of the Conchological Society of GB & Ireland. The Council is grateful for all the time she has spent on behalf of the Society, and her dedication to the role as Non-marine Recorder.

It was therefore important that Council put in place as soon as possible a new arrangement for the membership and others who may wish to contact the Society concerning all non-marine recording matters. The Council has agreed a temporary position. Dr Jan Light has agreed to temporarily take on the duties of the Non-marine Recorder in addition to her own as Marine Recorder, pending the appointment of a permanent new Non-marine Recorder. However, she emphasises that she will be acting mainly as a contact point; records sent in will be kept pending the appointment of a permanent new Non-marine Recorder, and specimens for identification or other types of queries will be passed to an appropriate expert. She asks that anyone who is willing to assist her to contact her directly by email, and let her know in which area of expertise help can be offered, and when that help would be available during the next few months.

It has also been agreed by Council that a special Review Meeting, will be held in the autumn where the post of Hon. Non-marine Recorder will be discussed, together with a review of all aspects of the Society.



Nora McMillan was a professional conchologist of international standing. Although based for most of her working life at the Liverpool Museum, she was born and brought up in Belfast. She was born Eleanor ('Nora') Fisher on 16 March 1908, the first of Ernest and Janet Fisher's two daughters. Her father was managing director of the Lindsay Thompson flax-spinning mill, when Belfast was still one of the world's leading producers of linen and rope. She was educated, with mixed results, by governesses and a couple of private schools, before being sent to board at Liverpool Girls' College in Huyton. Typhoid fever as a teenager terminated her formal education.

Her interest in shells was sparked by summer visits to the beach at Millisle from a very early age, where the first shell she recalls identifying was a purple

marvellous book *Ireland's Eye*, which is a homage to Welch and his photographic legacy (Figure 1). She often stayed with



R. Macdonald

Mr and Mrs Tomlin in England as a young woman during the 1920s and 1930s, enjoying a house crammed to overflowing with books, especially on Mollusca.

Her first published paper was in 1926, in the *Irish Naturalists' Journal* (1: 69-70)

Dental School, both of Liverpool University until 1956. She returned to work in Liverpool Museum first full-time, and then in 1973, part-time for the rest of her long career, becoming a respected curator, researcher and author, but always keeping in touch with her Belfast roots. She travelled widely in Europe, to Lake Chad in Africa, Australia and New Zealand, and went on a lone shell-collecting expedition to a whaling station in the Arctic Ocean in c. 1972. A past President of the Conchological Society (1956 & 1957), in 1970 her contribution to science and her expertise was recognised by being elected to the Royal Irish Academy; in 1991 with a honorary master's degree from Liverpool University; and in 1993 by being awarded the MBE. She retired from the Museum in 2000, although her expert knowledge continued to be in demand.

and beyond. By the time of her death, she had become almost the last direct link with two generations of Victorian conchologists who brought such distinction to Irish and British natural history through their personal research and field collecting - such men as Robert Welch (1859-1936), Robert Lloyd Praeger (1865-1953), J. R. le B. Tomlin (1864-1954) and Arthur Stelfox (1883-1972).

It was a pleasure and a privilege for both me and my colleague at the Ulster Museum, Dr Peter Crowther, to meet Nora at her home in Bromborough on 27th March 2003 (Figure 2), when we had the opportunity to talk to her about her long museum career as a conchologist and her formative years in Belfast. However, while she was patient enough with our questions about the past, to her great credit she was much more interested

Upon enquiries she was satisfied her child had opened the rubbish tip and collected pottery...

*So collecting was in the blood! What was [Robert] Welch really like?*

Very sweet. He was one of those teachers of natural history who would go to endless trouble for anybody. I owe everything to him, because he knew who to ask and who to get in touch with, the most selfless man you could imagine.

*And you met him when you were four..?*

Well I couldn't say..., but I can remember very well how I met him. Father suddenly remembered [who] maybe able to help identify shells, I was struggling with shells. So he got in touch with a friend of his in the [Belfast Naturalists'] Field Club, H.C. Lawlor. He said...come to tea, and I remember that time... I can see

*particularly encouraging of the younger, of the junior members?*

Oh yes, very, very good and endlessly patient with them.

*Which school did you go to?*

Various schools. Every time the family moved, I moved to a different school.

*So with all this moving around, you only got a basic education as in reading, writing ...the three 'Rs'. Did you get taught any natural history at school?*

Not a thing, it wasn't done.

*So you are an entirely self-taught naturalist?*

No, everyone taught me!

*By people like Welch?*

Like Welch, yes. And a passion for books,

## In conversation with **Nora McMillan MBE** (1908-2003)

*Chlamys varia* in 1914, at the age of 6. That shell is still part of the collection in Liverpool Museum. Her first shell book was Step's 'Shell Life', and by the age of 6 she could identify 34 species of shell. Keen to encourage this interest, a family friend, H.C. Lawlor, introduced her to the photographer and naturalist Robert Welch, and to the Belfast Naturalists' Field Club. Welch was a President of the Conchological Society (in 1923), and, to my knowledge, the last to be elected whilst living on the island of Ireland before my own election to the post. Throughout the 1920s, Nora's growing expertise as a budding conchologist was nurtured by Welch and other prominent members of the Field Club such as Robert Lloyd Praeger, the geologist J. K. Charlesworth, and particularly Arthur Stelfox, who was a major influence. Nora Fisher and Robert Welch are pictured collecting marine molluscs together in 1930 (dredging in Strangford Lough); and collecting land shells on 1st May 1932 on a Conchological Society field trip at Portstewart (by Ranald MacDonald), in Estyn Evans and Brian Turner's

on 'Piddocks (*Pholas*) at Greenisland, Belfast Lough', with two further papers in the same journal in the same year 'Living sea horse (*Hippocampus*) at Greenisland, Belfast Lough' (1: 70) and '*Helicella itala* from County Down' (1: 91). There were many papers, article, notes, and two books subsequently.

In 1929, Nora was employed on a temporary basis for 15 shillings per week by Belfast City Museum & Art Gallery (later the Ulster Museum) to work on the natural history collections (then only recently transferred to the new building on Stranmillis Road). Four years later in 1933, she left Belfast to take up a permanent job at the Liverpool Museum (thanks to a personal recommendation made by Prof. Charlesworth to the Museum's Director), looking after their shell collection and working in particular on their fossil shells. As was the custom in those days, when she married her landlady's brother William McMillan, a dental surgeon, in 1937, she had to leave her post at the Museum. From c. 1938, she held two small part-time posts, one in the Dept. of Geology and one in the

Known as 'Mrs Mac' to most of her friends and colleagues, she spent most of her life in a house at Upland Road, Bromborough which backed onto part of Dibbinsdale Reserve, to which she was a 'friend' for more than 60 years, recording its flora and fauna. After her husband died in 1954, she spent nearly 50 years in this house - but having at least 10, 000 books as company with pet snails, goats, dogs and cats! An article in a local publication *Cheshire Life* in 1976 describes her pet snails as being a present from a friend who brought them back from Australia - *Helix pomatia*, which apparently re-emerged in her garden every April. Her garden was also described as being the home to a colony of *Arion lusitanicus*. Nora McMillan died in hospital on 23rd August 2003 after a short illness, aged 95. She will be mourned not only by those who knew her personally at home and at work (a recent issue of the National Museums of Liverpool's staff magazine called her a 'Liverpool Museum institution'), but also by a much wider circle of naturalists around the UK

in the laptop-based database of Irish marine molluscs that I had brought to show her, and its future potential (Figure 3)!

The conversation given below is accurately transcribed, but substantially edited and rearranged from a 90 minute tape that was made of the conversation between me, Peter Crowther and Nora herself. I have not indicated below which person asked which question. It is also primarily about her early days in Northern Ireland. Jan Light had planned to visit Nora to talk with her about her time at the Liverpool Museum, but sadly this did not happen.

On one occasion when we were still living in Glendinnis, we left there when I was either 5 or 6... anyhow like all children do, I had a den .... outside my nursery window, ....and one day my mother was tidying up, and said *What has this child been doing*, and she investigated the den and here was a fine collection of bits of crockery which I'd washed and set out, you see, and the different patterns came from our house.

*she, Lawlor, where is she?*

*And did you join the Field Club as a junior member..?*

Oh yes, I wasn't allowed to get away with it. It was the days when it was an elegant occupation for a lady.

*Well it was. I was going to ask you how it was to be a woman with so many men. I mean in those days...*

I didn't mind.

*Was it more equal in that area, than in other spheres of life? Did women have more respect?*

Yes, I think it was, I think so.

*I think the Field Club always stressed equality, not that it would have been called that at the time, because you can go right back to that famous photograph of 1868 5 years after the Club was founded), with the Field Club scattered across the Giant's Causeway columns, and there's as many women as there are men in that famous shot. Was Welch particularly encouraging of the younger,*

*I think I would agree with you that the key to education is having a passion for books.....The actual field meetings [of the Belfast Naturalists' Field Club], you went on those, I suppose?*

Oh yes, I was urged to go.... Welch introduced me to Stelfox, who took me firmly in hand.

*So then Stelfox became an influence on you?*

Oh, very much so.

*Do you remember how old you were when you were introduced to Stelfox?*

Oh dear, I don't remember, I'm sorry. I always kept a natural history diary, but never a real diary. I couldn't be bothered. Life's too short! [general laughter!]

*When you went on field trips...do you remember how the meetings were organised and the number of people that used to go on them, were they very well attended?*

They were well attended and they usually



ended up at tea, which was rather nice because you could swap records and things.

We were [living] outside Belfast, but however I was fortunate in one way. Welch was always saying to me to go to London to the British Museum, you must ask to see Tomlin, so I said *all right I'll do that*, so I did. I was having a holiday in London with some cousins and my uncle, he took me to the museum. I can't think how old I was, in my teens .... There was this nice-looking old boy with a shock of white hair, good-looking old man, and I explained who I was and I said *I was told to ask for Mr Tomlin*, and *I am Tomlin* says he, and from that day on I was firmly taken in hand. We used to stay with him sometimes, it was quite an education. Every room in the house was bunged full of books. I think he must have had every word that was ever commissioned. When I was stuck for a book, I wrote to Tomlin, where do I get a copy of so-and-so and how will I pay for it.

He wrote to me on one occasion, during the war, during the 1940s, and said that he was very pleased because he had just found a nice large dry cellar under his dining room that he hadn't known about and it just holds his *Encyclopedia Britannica*.

*So you had a long correspondence?*

Oh yes, till he died.

*Did you get to meet [Robert Lloyd] Praeger [the premier Irish naturalist; published a list of shells from the north-east of Ireland] often in Belfast at all when you were there?*

Oh yes, we used to go and stay with him now and again. He was a very nice man. He used to come and stay with my people sometimes, if there was something special to look at. I don't think he ever drove a car in his life you see. He told Charlesworth that he did nearly all his fieldwork on bicycle. On one occasion I was walking and he took me up to look at some particular bog. I'm not very keen on bogs. Frankly I'm frightened of them... and [it was] a rather shaky one. Anyhow, he walked across, you see, so I followed, carefully followed, he put his foot there, I put my foot there too, then he turned around cold bloodedly and said *Don't you think your seven stone might go where my*

*seventeen stone has?* Another day we were exploring the Glens of Antrim, and it was a blazing hot day, terrible hot day....teenager as I was in a cotton frock and sand shoes and that was about all, and the sun got hotter and hotter and [he] took off his jacket, and then pulled off his shirt, so just in his breeches – I think if I hadn't been there, he would have had those off too!

*What did you used to wear when you used to go on the shore? Did you wear shorts or dress?*

I think I usually wore a skirt. I remember, Ranald [Macdonald] and I ...twice we went to Lough Foyle, and I usually wore shorts. I just wore what I happened to be wearing.

*What did you use, did you take a bucket, did you have a bag or..?*

I think it must have been an old accumulator jar.

*And you just picked things up? Did you collect weed, that sort of thing, or just turned rocks..?*

I think we were just interested to turn over a nice big stone, and settle down and have a really good look at it.... I always liked sea slugs....

I had a friend, she's dead now. She was a biologist at St. Andrew's for many years and we were out collecting one day together - seaweed and shells go very nicely together. And she said *Oh, that's it!* and I said *What do you mean Helen?* and she said *For years and years I wondered why so-and-so and now I see. I said Don't worry, there'll always be that sort of thing. A piece just falls into place.*

*And you were working on the existing collections [in Belfast], you weren't going out and collecting new material for the museum?*

Anything I did collect was for the museum, I've never had a private collection.

*So all your material went to whichever appropriate Museum, whether it be Belfast, Dublin or Liverpool?*

Yes.

*Did you come back often? I know you went over to Liverpool in 1933?*

For a while I used to come [back] every

3rd or 4th weekend. I had an arrangement. I would work on at the Museum, and I would have 2 weekends [off] and I would go home on the Saturday. So I really would keep in touch for quite a long time like that.

*You came back specially [for work with Ranald Macdonald in Lough Foyle 1936-39]?*

Yes, it happened to coincide with Welch's death [in 1936], a rather sad thing. When Welch died.... at the funeral, I met [William] Megaw [a local, well-known naturalist] who said *I'm pleased to see you, and do you know*, he said, *I found a rare mollusc coming up here*. Welch would have loved that.

*And you had so long at Liverpool as well.*

Yes, I completed my seventy years in museums at Liverpool. There was the Ulster Museum, then the Liverpool Museum, and then when I got married they threw me out of course, because you weren't allowed to be married. Quite appalling.

*Have you been back to Liverpool Museum very recently, since they've had the refurbishment there?*

That pleasure awaits me!

*I'd heard that everything is now back in the Museum after the refurbishment, but I haven't seen it yet..*

I went to see them in an awful tin shanty place. It was pretty dreadful, couldn't get at anything, everything was packed up and I haven't been back since....what has happened to my shells?

*You'll have to go and check up.*

I'd like that, you know. Do you want some tea?

*That'd be lovely Nora, we could take a good break.*

I'll put the kettle on.....

## Julia Nunn

(with thanks to Peter Crowther)

## Invertebrates of Temporary Waters

Perth Museum, 18th March 2006 Meeting Report

Adrian T. Sumner and Craig Macadam

This meeting arose out of a suggestion to Craig Macadam that he should give a talk to Scottish conchologists about the work of the Mud Snail Study Group on establishing the status of *Omphiscola glabra* in Scotland. Craig then proposed broadening the meeting to include other invertebrates of temporary waters, and so this joint meeting with the Royal Entomological Society took place in the comfortable surroundings of the lecture theatre at the Perth Museum.



The first speaker was Larry Griffin of the Wildfowl & Wetlands Trust, who described the rediscovery of the tadpole shrimp (*Triops cancrivormis*) at the Caerlaverock reserve on the Solway coast near Dumfries. This prehistoric creature (it has been around for some 200 million years) bears a remarkable resemblance to the horseshoe crab (*Limulus*) (Figure 1, see F on page 15), but is definitely a freshwater species. It appeared in just a single pond on the Caerlaverock reserve after heavy August rains in 2004, and has not been seen there before or since. It has, however, been found sporadically at other sites along the Solway coast in the distant past. Apparently it can survive as eggs in dried-up mud for at least 50 years, and completes its life-cycle in 12–14 weeks, obviously a good strategy for an animal living in such marginal habitats.

The next speaker was Thomas Huxley, who described the habitats of a number of species of

water bugs (Hemiptera), and entertained us with his demonstrations of the various methods needed to find different species. More seriously, it was a reminder that there is no single standard way of finding the various species in any group. Some species of Hemiptera will colonise even the most unpromising sites, such as water-filled tractor ruts – temporary waters indeed!

After the tea break, during which there were many animated discussions (Figure 2), and an opportunity to examine some of the Perth Museum shell collection (Figure 3), the last speaker was Craig Macadam, who told us all about the Scottish *Omphiscola glabra* project. This aims to establish the current status of the mud snail in Scotland, examine old sites to see if the snail still lives there, look at other likely sites to see if they also harbour mud snails, establish a captive breeding programme, and perhaps ultimately stock appropriate new sites with captive bred stock. So far, mud snails have been found in a number of sites where they had previously been reported, as well as a few new sites. Other sites where *O. glabra* was recorded in the past have not yielded these snails so far; this could be because of over-collecting in the past, but is more likely to be due to habitat changes, in particular drainage. In at least one case it has not been possible to identify the site described in the older literature.

Most records of the mud snail are from sites that dry out readily, and the best time to find the snails is late winter/early spring, when water levels are likely to be at their highest. Nevertheless, they are occasionally found in anomalous habitats such as ponds that remain full of water throughout the year. When temporary waters do dry out, the mud snails burrow into the mud and remain there until the water returns. They become active again within a few minutes, and will start breeding very quickly. There is no problem about breeding them in captivity, and several primary schools have reared their own pet mud snails. Although there is no difficulty about returning captive-bred mud snails to the sites from which they came, Scottish Natural Heritage has so far vetoed attempts to use them to (re)introduce mud snails to likely looking sites.

This was the end of the formal part of the meeting, but people found it very stimulating, and informal discussions continued for some considerable time afterwards. Nor was this a purely Scottish event; one person had travelled all the way from the south of England to be with us and make a valuable contribution to the discussion.

Fig. 1. The tadpole shrimp, *Triops cancrivormis*. Photo kindly provided by Larry Griffin. See page 15, F.

Fig. 2. Animated discussion between Thomas Huxley and Keith Bland during the tea break. Photo by Adrian T. Sumner.

Fig. 3. Budding young conchologists study items from the Perth Museum to find out how to arrange their own collection. Photo by Adrian T. Sumner.

## Black Slug (*Arion ater*)

When I was young, I'll have you know,  
I was gleaming yellowish white,  
But now I have reached adulthood,  
I'm black as the dark-mooned night.  
I gobble all the mouldy leaves  
In the garden bed you dug:  
They help to keep me sleek and slick,  
For I'm a bold black slug.  
Plant a field of cabbages  
For making sauerkraut,  
I'll strip 'em all to skeletons  
For yards and yards about.  
The way you swear, you'd think that I  
Was just some loutish thug—  
I'm not! My taste's impeccable  
For I'm a bold black slug.  
And when the garden is all bare

And molluscs all grow lean,  
While you rest, I do my best  
To keep the garden clean,  
Or come inside and leave a trail  
Across your mohair rug—  
'Twill look sublime marked with slime  
For I'm a bold black slug.  
I know I am a cannibal—  
But that isn't why you hate me:  
I'll eat phonebooks, dog shit too;  
That's not why you berate me.  
I suspect my name is mud  
Because it rhymes with *ugh*.  
Be off! I'll wag my head at you!  
I am a bold black slug.

**Source material.** *Arion ater* is one of the commonest slugs in British gardens. The young are pale in colour, but gradually darken with age,

starting with the tentacles. Black slugs will eat almost anything, including each other, and when the Yellow Pages are delivered on doorsteps, it is a well known fact that black slugs race the householder for them, as if hurrying for a gourmet meal. When frightened, a black slug will hunch itself up like a hedgehog, but when irritated, it will lift the front portion of its body off the ground, and waggle it furiously from side to side. The effect when two or more slugs are gathered is likely to be comical, as Lionel E. Adams (*The Collector's Manual of British Land and Freshwater Shells*, Leeds, 1896, p. 24) observes: "It is ludicrous to see half-a-dozen of the creatures wagging together."

**Giles Watson (2005)** in 'Watson, L., and Dallwitz, M.J. 2005 onwards. The families of British non-marine molluscs (slugs, snails and mussels). Version: 23rd October 2005. <http://delta-intkey.com>'





1



7



11

Rosemary Hill



2



8

Adrian Norris



12



3



9



4



10



5

Images 1-14 relate to specific articles within the magazine.

1-10. Anglesey and the Lley Peninsula Field Meeting. Page 3-4. Photos Tom Clifton (except 6)

11. Exterior of the shell grotto at Newhailes House, near Musselburgh, Scotland. Page 6.

12. *Tudorella ferruginea* on wall near Llubi, Majorca. Page 5. (Fig. 5)

13 & 14 *Eobania vermiculata*. Page 6.



6

Peter Topley



13

David Notton



14

David Notton



A

J. Nunn



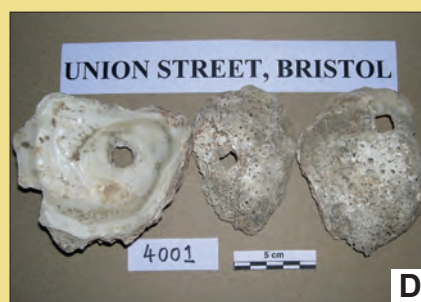
B

P. Crowther



C

Jan Light



D

Jan Light



E

John Llewellyn Jones



F

Larry Griffin



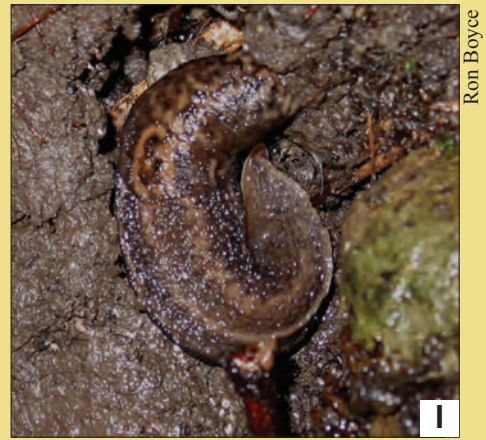
G

Sally Sharrock



H

Peter Topley



I

Ron Boyce



J

Harry Green



K

Harry Green



L

Images A-L relate to article specific articles within the magazine .

A & B. Relate to the Nora McMillan article on page 10. (Figures 2 & 3)

C. Right valve of *Ostrea edulis* with square hole at the umbo, from a Roman site in Bath. Page 18.

D. Three left valves of *Ostrea edulis* with holes believed to be manmade from a Late Medieval site in Bristol. Page 18.

E. Roundel to commemorate Grace Darling. Page 22

F. The tadpole shrimp, *Triops cancriformis*. Page 15, Figure 1.

G. *Atrina fragilis* showing the unburied part of the shell intensely colonised by sponge and other organisms. Sally Sharrock / Marine Conservation Society. Page 17.

H. *Sepia elegans* (4 smaller specimens on left) and *S. orbiginiana*. Page 17.

I. *Limax maximus* in Suckley quarry. Page 19.

J. *Ena obscura* covered with soil. Page 19.

K. Jew's ear fungus with *Cochlodina laminata* in Suckley Hills quarry. Page 19.

L. *Limax maximus* crawling in the open in the alder carr at Knitsley Ravine. Page 24.



## A left-handed Creator

Edi Gittenberger

It is a well-known fact in malacology that the overwhelming majority of snail species is dextral. Their shells are coiled clockwise. It has less frequently been emphasized that right-handed persons tend to figure a snail's shell as sinistral. I noticed this phenomenon for the first time when I got as a nice present a large painting of a variety of fantasy-snails in bright colours. It had been created by about ten c. 5 years old crèche children, working together but on separate snails. Unfortunately the paper was of a very poor quality and this piece of real art does not exist anymore and cannot be reproduced. When a coiling direction could be recognized, it was sinistral in nearly all cases. Only two snails were clearly dextrally coiled. I hypothesized that one child of the group would differ from the others. So I asked who had drawn those dextral snails, thinking that that child might belong to the left-handed minority. It was not the case. The girl in question was right-handed, but, the teacher had assisted this child by drawing the difficult spirals for her, as a start, and that teacher was, indeed, left-handed. The phenomenon can be observed at many places. Here I refer to *Mollusc World 10*, with Jane Bonney showing snails figured on boats (p. 7), most of which as sinistral ones (figures 2?, 4, 6 and 10), and (p. 15), Jim Logan presenting another good example of the common occurrence of printed sinistral snails. It has often been cited that the Creator has to be fond of beetles, and left-handed, I would like to add.

## “Duchess of Curiosities: The life of Margaret, Duchess of Portland”

*A new Exhibition and Booklet.*

Kevin Brown

Margaret Cavendish Bentinck, Second Duchess of Portland (1714-1785) is a well known figure in the history of shell collecting. Peter Dance in his “*Shell Collecting: An Illustrated History*” states that “She became the unchallenged leader of British dilettanti and her collection of shells was considered the finest in England and rivaled the best in Europe.” The dispersal of her collection after her death is still regretted, yet the catalogue for the sale introduced many new scientific names, and remains an important reference.

Recently an exhibition has opened at Welbeck, one of the Portland family estates, focusing principally on the life of the Duchess, and featuring many portraits of her and members of her family, but also including the reconstruction of an eighteenth century cabinet of curiosities. The exhibition is at The Harley Gallery, Mansfield Road (A60), Welbeck, Worksop, Nottingham S80 3LW. Telephone: 01909 501 700. 10AM to 5PM Tuesday to Sunday, and runs until March 2008.

Produced to complement the exhibition is a 44 page booklet titled, like the exhibition, ‘Duchess of Curiosities: The life of Margaret, Duchess of Portland’ written by Rebecca Stott - well known to naturalists for her recent books Darwin and the Barnacle” and “Oyster”. Again the emphasis is on the Duchess’ life, but there is much on her collecting. Her relationship with her contemporaries —

from George III and Queen Charlotte, Horace Walpole, Jean-Jacques Rousseau, David Garrick, Dr Johnson and Joshua Reynolds to impoverished scholars and sea captains becomes clear, as does her own attitude to collecting, not just in the pleasure of ownership but in the philosophical project of studying the natural world.

It is interesting to read that the Duchess employed people to collect shells for her, and sponsored scientists to collect material -- she helped fund Cook’s voyages and gave Dr. Thomas Shaw some £600 “to fund his travels and to find shells and curiosities for her as he travelled”. She also employed artists to record specimens for her, for example commissioning some 800 botanical drawings from Georg Dionysus Ehret. The book has numerous quotations from contemporaries, from the Duchess herself - and it is tantalising to read that many of the people she employed to collect shells are mentioned in her letters, and, particularly from her close friend Mrs Mary Delaney. It is illustrated in colour with numerous family portraits, natural history illustrations and, objects associated with the Duchess, from the eponymous Portland Vase and carved gems to a pair of silver-gilt candelabra by John or William Cafe, London 1757, modelled after tree-branches and decorated with insects and snails which she commissioned.

Available from The Harley Gallery – address as above - for £3.95 + £1.50 p&p. This is a fascinating insight into one of conchology’s great characters. My only criticism would be the lack of a bibliography, and in particular, details of primary sources, as the Duchess letters could throw an interesting light on the sources of some of her shells, especially those species first named in the Portland sale catalogue.

## MARINE RECORDER’S REPORT 2005

Jan Light, March 2005.

Following on from last year I can report some progress in the integration of our recording activities and database with the wider biological recording community. Our converted computerised records, now transferred to Recorder 2002, can be explored through a web browser using the NBN Gateway and I refer members to *Mollusc World 8* to see how to explore those records alongside other molluscan databases. Although we have computerised some of our marine data, these represent a minority of records held by the Society, in their various forms and in various locations. Many records still await input and we are looking for some assistance with this from the membership and also exploring a route to enlist voluntary help outside the Society via a volunteers’ website. To my knowledge we now have 4 Society members who can work with Recorder 2002 but we need more.

An audit of sea area archives has resulted in receipt of batches of documentation for a number of sea areas. Some of these data have been compiled and submitted in such a way that they require some preparation before they can be made ready for computerisation. Some very large marine mollusc datasets for other sea areas have already been computerised by a Local Record Centre (LRC), or by the respective sea area representative (for example, Orkney, West Scotland, all of Ireland, Cornwall) and without making too many presumptions, in order to avoid duplication of effort, I believe we need to negotiate their integration into the Society database without compromising the calibre of our own database. This should entail some reciprocity on the Society’s behalf.

There has been a proliferation in the quantity and quality of datasets being compiled over the last decade which poses problems of checking, validating, agreement on common standards and ultimately whether records are considered acceptable or not. At one time the Society was the first point of submission for new records but many workers actively involved in recording now submit to their LRC or County Wildlife Trust and I believe this has resulted in a diminution of marine records coming into the Society. It has been calculated that about 70% of all information on species are collected by amateur biological recorders (BRISC Source Book for Biological Recording, 1999). Whilst we should be glad that recording continues, and it is evident that our services continue to be valued for specialist help in identifying, it does have consequences for the Society’s own recording scheme and database.

Some noteworthy records for the year are as follows:

*Atrina fragilis*: This species, protected under the Wildlife and Countryside Act, 1981 featured in my report for 2004. During 2005 a solitary specimen was found in Loch Duich in northwest Scotland as reported by Jean-Luc Solandt of Marine Conservation Society. He noted that this find increased the known Scottish population by 100%! Fan shells are gregarious and live deeply embedded in sediments, Figure G, p.15. They can occur in extensive beds in the same habitat as scallops, which renders them vulnerable to damage from fishing activities. There must surely be extant but unknown fan shell beds which need to be located and reported.

*Lyrodus pedicellatus*: The field trip to Sandwich in June turned up new record for a group of molluscs seldom recorded living around the British Isles. A partly buried wreck exposed at low tide was

investigated by John Llewellyn Jones and found to contain several specimens of this shipworm. This is a new record for Sea Area 13.

*Tapes philippinarum*: In the space of 3 weeks in 2005 I received 3 independent notifications of living Manila Clams from Foreness Point, Margate (Rupert Honnor), Reculver Beach on the north Kent coast (Simon Taylor) and a single live individual was collected from Langstone Harbour (Christopher Palmer). The determination of the former specimen has not been finally resolved. Mik Davies has been finding shells of the species, some alive, since 1993 from Whitstable Harbour. This non-native (southeast Asian) species is farmed at Reculver and it would seem that some clam larvae have escaped and become established locally and possibly at nearby Foreness. There is a healthy self-sustaining population established in Poole Harbour as a remnant of former farming there. When *T. philippinarum* was introduced into the UK for farming it was thought that minimum water temperature requirements for fertilisation could not be met. Global warming has probably put paid to that assumption. The species is found in the intertidal in sheltered mud-gravel beaches and superficially resembles *T. decussatus* (see *Mollusc World 2* for an identification guide). The escape of this species into the wild is still sufficiently recent to warrant an observation scheme to track the movement of the species into the open environment and I commend it as a suitable project for Society members with involvement from the wider public.

*Osilinus lineatus*: This topshell of the upper littoral, now viewed as a bioindicator of climate change has been found by Julia Nunn at Portballintrae on the north coast of Northern Ireland (SA29A) - the most northerly record in Ireland and the first record for the species since it was found there in 1952 by Nora McMillan.

*Janthina janthina*: A live occurrence of this species, the first for the south coast of Ireland for more than 75 years, has been recorded by Graham Day at Castlefreke Strand, co. Cork (SA38).

Other records for Ireland submitted by Julia Nunn include: *Puncturella noachina* Kilkieran Bay SA36, *Ondina diaphana* Lough Hyne SA37, *Donax vittatus* Magilligan SA29A, *Partulida pellucida* Inishkeas SA35, *Gibbula magus*, *Mangelia brachystoma*, *Limaria hians*, *Cochlodesma praetenuae* all from Rathlin Island SA29A

*Sepia elegans*: Tom Clifton who regularly surveys stretches of the coast in Sea areas 23 Anglesey and 24 Liverpool Bay has reported strandings of *S. elegans* as new records for S22 Cardigan Bay and S23 (see *Mollusc World 9*). The four specimens on the left of Figure H, p.15 are *S. elegans* bones from a sample collected between Port Daffarch and Barmouth, North Wales in July 2005 by Tom. The two *S. orbigniana* on the right, figured for comparison, were collected by Peter Topley, the left from Appletree Bay, Tresco, SV892 136/8 (August 2000) and the right from Warren Point, near Minehead, Somerset (April 2001).

In conclusion I reiterate the concluding remarks of Trevor James who came in December to talk to the Society about the NBN. His message was simple ‘Keep on Recording’. In the light of the emphasis placed on Biodiversity and Conservation issues, we need to think about what sort of records are needed, improve how recording is carried out and work towards managing our records efficiently so that we have something really worthwhile to make available to those who need the information via the NBN.

All the records cited in this report are new information to the Society’s Marine Census.

### Disappointed Snail Enthusiast - 2

Following my complaint about Woolworth’s Liquorice Snails that weren’t (see *Mollusc World 10*) they finally responded with a computer generated apology (sadly not in rhyme) and a money voucher. I was disappointed that they had not replied with a poem. However a friend of mine suggested one that they might have sent.

“Dear Customer,

We regret you are unhappy  
With your sale  
A bag of snails without a head  
Without a tail

To you a promise we must keep  
You see the snails, they are asleep  
A tiny snore you should hear  
If you sing they will appear

But we have found they have  
Some trouble appearing  
As it seems this type of snail  
Is hard of hearing

We hope you are not too tense  
We are sorry, therefore and hence  
Here’s a cheque to cheer you up  
For a pound and fifty pence.”

Jeanette de Lacey-Mann 2005



## Oysters and Horseshoes – a reply

Jan Light

Alex Menez' observations and speculations regarding the square holes he has noted on oysters from archaeological contexts (*Mollusc World* 10) accord with thoughts I have had on the same subject. In the course of my work on marine mollusc assemblages from the archaeological record I see a fair number of holed oysters.

Holes in oyster shells can be attributed to a wide range of agents. Many holes have no archaeological significance. Various microboring agents (*Cliona* spp., microalgae, microfungae) cause perforations at varying scales. Blistering resulting from the parasite *Polydora* causes progressive wear through the shell layers resulting in complete perforation of the shell. Excavation damage such as the perforation of shells by site-marking pegs must be distinguished from holes which were deliberately made during historic occupation of the site. (Quite apart from the fact that present-day holes will have fresh, relatively clean edges, the dimensions of the pegs used need to be known). Shells may be holed by trowelling during excavation. Flakiness of shells, sometimes exacerbated by prewashing, predisposes shells to holing.

For all shells where some modification, whether natural or unnatural, has occurred its detection and interpretation are hampered when shells have been subjected to post-excavation washing prior to analysis, unless carried out in a controlled way. Whilst the removal of adherent soil allows some features to be discerned more clearly, the tendency to flaking is accelerated. Also, the removal of shell material which was weakly attached, including those fragments which may have been loosened or generated during excavation but remain attached, held in place by the soil, results in the loss of potentially useful information. When shells are washed, distinguishing between pre-excavation and actual excavation damage is less straightforward but clearly, a shell bearing a hole with pristine margins unstained by soil is indicative of one that has been damaged during retrieval.

But to return to the question of the square holes, there are at

least three occasions when I believe I have handled oyster shells with holes similar to those described by Alex and which I infer have been made deliberately.

From a Roman site in Bath I saw a right valve bearing a relatively large, square-sided hole at the umbo, and this is believed to be a manmade artefact, Figure C, p.15. From a Late Medieval site in Bristol I saw a large left valve of *Ostrea edulis* with a regular hole sited over the adductor scar. From this site there were also two other shells with square holes, Figure D, p.15. The appearance of these holes suggests they were buried as perforated shells. From a second Late Medieval site at Shapwick on the Somerset Levels I noted a right valve which was flat and lustrous with a central square sided hole (3mm). This shell also bears 2 V-shaped notches in marginal edge, these notches resulting from damage during opening of the oyster for consumption. The perforation to the shell suggests it was 're-cycled' for a subsequent purposes.

Alex wondered whether the oysters could have been used for roof tiles but had not seen a reference to this in the literature. In fact he has hit the nail on the head, as it were, for there is indeed a reference which hints on their possible use for this purpose. In writing up excavations carried out at the deserted Medieval village of Hangleton in East Sussex, Holden (1963) described perforated oysters shells as a persistent feature of finds assemblages containing pottery, tiles, roofing materials and nails and he figured some perforated oyster shells and a typical nail in his paper (Figure 39, page 175).

As is often the case in matters of archaeological interpretation we need to combine an assessment of the tangible evidence with our experience and instincts as fellow humans and adopt a cautionary approach. A substantial deposit of oysters bearing similar, regular holes in an appropriate context would be grounds for considering their use as a roofing medium. But even as occasional finds, I would suggest that they could be used as a repair medium in a 'patching' capacity. Whatever these oyster shells mean, our ideas should be tempered by applying the Law of Least Astonishment!

Holden, E.W. 1963. Excavations at the deserted medieval village of Hangleton. *Sussex Archaeological Collections*. 101. 54-177.

## On the naming of boats...

Jan Light

Jane Bonney's article on boat names reminds me that a couple of years ago some friends of mine sought my advice in the matter of naming their new boat, a fancy yacht, the manufacturing name for this range of vessels being 'Oyster'. It seemed to me that I was immediately faced with a relatively small range of names to choose from and I consulted the lists of oyster genera in my various literary sources. One name stood out as appropriately elegant for the vessel in

question: *Pinctada*, the Pearl Oyster. Pleased with my inspiration I went back to my friends and offered them the name. After a moment my friend said "No, I don't think so. It sounds like a dish you might find on the menu of a Spanish Tapas Bar." I volunteered a few other suggestions but none seemed to delight. In the end I gave Carolyn my copy of the Smith & Heppell Marine Checklist. "Here you are", I said "there is a wealth of beautiful names in this. I think you could find something you like." A week or so later my book was returned. Carolyn had found a name she liked – *Ondina*. "What sort of seashell is it?" she asked. I

hesitated, did she, I wondered, really want to know? "*Ondina* is a member of a superfamily of snails that parasitise other organisms", I said. Digging myself deeper I volunteered "they feed on the body juices of their host, in this case a worm-like animal called a sipunculan, *Phascolion stromi*, that in itself is also a free-loader. It lives cemented inside empty gastropod shells."

In the end my friends called their yacht '*Opportunity*' but I couldn't help feeling that an opportunity had been wasted!

## The West Worcestershire Hills

Field meeting 20th May 2006.

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



1



2



3

1. Suckley Hills viewed from Hallhouse wood. Photo: Rosemary Hill
2. Field work in Suckley Hills quarry. Photo: Ron Boyce
3. It was a very wet day! Suckley Hills survey group. Left to right David Long, Ron Boyce, Rosemary Hill. Photo: Harry Green

When I arrived at the Suckley Hills the weather was quite dry – at least it was not actually raining although several inches of rain had fallen in the past few weeks. A good description of the woodland was 'sopping wet'! Nevertheless a Pied Flycatcher sang from a nearby oak while I waited for the rest of the party and I was beguiled into taking an insect net with me in the hope that the flowering hawthorn would attract a few hoverflies and bees. The net was useful in finding one snail species despite the general wetness of the day punctuated at regular intervals by torrential downpours! Add to that great splodges of water falling from the trees when it was not raining, and the wind blew: it was a great day for testing umbrellas and waterproof clothing. My view that a naturalist should never be without an umbrella was reinforced once again!

This part of west Worcestershire is situated on Silurian rocks and a glance at the geological map shows it to be an area of considerable complexity with a wide variety of shales and limestones. The first part of our itinerary was along woodland tracks and into a string of old quarries lying within Suckley Wood, a wooded ridge situated on Wenlock Limestones – the same as those out-cropping at Dudley Castle in West Midlands - and the associated Coalbrookdale formations. The Wenlock limestones are quite hard, fossil-rich, and have often been quarried. The second part of our visit was to follow the footpath along the nearby hilltop ridge within Hallhouse Wood

lying about 500 metres to the west of Suckley Hills on the other side of a shallow valley. This ridge is formed of rocks of the Ludlow series and the ridge top is marked by a narrow out-cropping of Aymestry limestone consisting mainly of calcareous mudstones which appear not to have been quarried in the area.

Suckley Wood is ancient semi-natural deciduous woodland which was partly coniferised 30-40 years ago. The conifers are gradually being cleared by the present owner and native woodland allowed to regenerate. Tree species include Small-leaved Lime, Wild Service and many Yew trees, and the site is floristically rich. Hallhouse Wood is also ancient semi-natural woodland but it has been more heavily coniferised and most of it is now managed as a conifer plantation. Small blocks of native woodland survive within it alongside the main public right of way and elsewhere.

The list of mollusc species found on this visit to the two sites is attached. Generally the eastern Suckley Hills and Wenlock limestone quarries seem to support more species, although our search was more thorough there than in Hallhouse Wood. Several years previously we had briefly visited the quarries at the northern end of the Suckley Hills (Crews Hill Wood – a Worcestershire Wildlife Trust reserve) in very dry conditions and found little apart from a previously unrecorded colony of *Pomatias elegans* living amongst small zones of scree in the old quarries. On the present visit it was especially pleasing to

find this species in similar habitat in all the old quarries on the Wenlock Limestone – a north-south strip about 2 km long.

Perhaps the main feature of this field visit was that many molluscs were climbing trees! Besides the common tree climbers *Clausilia bidentata* and *Cochlodina laminata* and a variety of slugs, the surprise for me was to see many *Ena obscura* heading up tree trunks! Obviously the recent days of wet weather had encouraged lots of tree climbing activity and the contrast between this visit and the one in very dry conditions a few years ago when molluscs of all sorts were hard to find was very striking.

I am not an expert conchologist and these field meetings always teach me something new. This time the first lesson was to find the thin, slender 'Bert-the-gorilla' slug *Boetgerilla pallens* and appreciate its general pallidity suffused in part with blue. Second was *Ena obscura*. I have never before seen so many in one day! I have long recognised that in the living state this is a dirty snail of leaf litter which usually has a shell coated with fine soil particles. However, when David Long pointed to a small object resembling a beetroot seed stuck to a tree trunk and said "... there's a young *Ena obscura*" my first reaction was of disbelief! However, there it was: a snail a few millimetres long enrobed (as the chocolate makers say!) with quite large soil crumbs. The question I should like answered is – how does this camouflage get stuck to the shell? A snail could hardly roll in it! Presumably the shell is somehow coated with sticky mucus that attracts and retains soil particles?

Next lesson again came from David Long. "It's worth" he said "sweeping the outer branches of these old yew trees for *Zenobiella subrufescens*". So I swept through the branch tips with my sopping wet insect net and behold, amongst the spiders, harvestmen, inevitable small flies and craneflies, there they were, in both woods! Again, questions! Why do they do it? It's a long way up a yew trunk and out to the branch tips. Is there worthwhile grazing there, if that is what this species does? Or are these sites simply safe refuges?

The complex band of Silurian Woolhope, Wenlock and Ludlow limestones and associated strata runs roughly north-south from Ledbury along the west side of the Malvern Hills and continues north to within a few kilometres of Wyre Forest. There are many ancient woods and a few herb-rich grasslands in this zone. It strikes me as an area well worth more molluscan exploration and I shall be closely examining maps for sites to explore in the future.

continued on page 26



At the 2006 AGM Council decided that *The Society's Proceedings and Officer's Reports* would no longer be published in *Journal of Conchology*. This is to release more space for papers in the *Journal*. In future all reports will be published in *Mollusc World*. Those for the Treasurer, Marine Recorder and Conservation Officer are included in this issue.

**Report of the Hon. Conservation Officer 2005**

Selected key items from the 2005 year are summarised below.

**Advice and help:**

- Has been given to many individuals and organisations and some examples include:
  - Specimen identification confirmations were undertaken for several members and organisations (e.g. the Environment Agency, Winchester).
  - The RSPB was given help in assessing the non-marine molluscan populations of a reserve on the Isle of Wight (*it is hoped that the RSPB will allow a short article summarising this work, to appear in a forthcoming Mollusc World*);
  - Scottish Natural Heritage was given advice relating to a draft of a booklet being produced on 'Scottish Atlantic hazelwoods'.
  - Advice regarding reported Roman snails

Helix pomatia at Bishop's Park Fulham and also for the same species, management recommendations to Heather Catterfeld concerning the construction of a metalled cycle way along part of the Lee Valley Way, Herts. through an area supporting this species.

- The Somerset Environmental Records centre was provided with information on species of 'conservation concern' present in the county to aid in the production of local biodiversity action plans.

**British Wildlife:** The production of a molluscan wildlife report for this journal has continued with the publication of two reports in February and October 2005. The Conservation Officer has used this column to publicise selected aspects of work undertaken by the Society.

**Invertebrate Link (formerly J.C.C.B.I.) and The Invertebrate Conservation Trust (Buglife):**

Membership of the Committee continues providing valuable contacts with other organisations. Member organisations of Invertebrate Link present annual summaries of their organisation's conservation work throughout the year and the Conservation Officer tabled a summary paper outlining the Society's work throughout the year 2004 – 2005 at the October 2005 meeting. Several members contributed to the production of the Buglife leaflet 'Snails & Slugs – Conserving the small things that run the world'. The

Society endorsed this leaflet, which carries the Society logo (*copies of the leaflet were given out at a number of indoor meetings but if you would like a copy please contact Buglife – see WWW.buglife.org.uk*)

**The Fourth Quinquennial Review of Schedules 5 and 8 of the Wildlife and Countryside Act, 1981.**

Buglife have worked to further the case of *Helix pomatia* for addition to Schedule 5 of The Wildlife & Countryside Act. DEFRA have still to announce their final decisions relating to the Fourth Quinquennial Review of this Act.

**Mollusc World:** The Conservation Officer has contributed an article to edition 8 of the publication. This contained a summary of Society's role in UK BAP Priority Species Review and also described The UK Biodiversity Action Plan (BAP) Steering Group meetings.

**Biodiversity Matters:**

- Submissions to the non-marine UK BAP Priority Species review were completed and submitted in May 2005. A total of 21 plans were submitted including ones for all eleven of the original Priority Species together with 8 priority species proposals and an additional two species 'flagged-up' as national responsibilities (details appeared in *Mollusc World* 8:22 which highlighted the team-work involved in the completion of this challenging project).
- Scottish Natural Heritage (SNH) requested

*continued on page 23*

**Treasurer's Report 2005**

**A summary of the Financial Statements adopted at the A.G.M. on 8 April 2006**

	2005	2004
<b>Income</b>		
Fees and subscriptions	£11,601	£10,178
Investment income	£5,350	£5,368
Other income	£1,367	£2,067
Donations and legacies	£4,991	£4,784
Total income	£23,309	£22,397
<b>Expenditure</b>		
Publications costs	£17,726	£17,802
Stationery and postage	£1,133	£527
Meetings costs	£1,266	£726
Sundry expenses and fees	£687	£938
Grants	£1,800	£0
Total expenditure	£22,612	£19,993
<b>Profit</b>	<b>£697</b>	<b>£2,404</b>
<b>Gain on revaluation of investments</b>	<b>£5,122</b>	<b>£2,634</b>
<b>Net movement in funds</b>	<b>£5,819</b>	<b>£5,038</b>
<b>Fund balances brought forward</b>	<b>£112,061</b>	<b>£107,023</b>
<b>Fund balances carried forward</b>	<b>£117,880</b>	<b>£112,061</b>

Without the generous donations and legacies the Society would have been in deficit for the year by £2,494, but thanks to that source of income, we were able to make a research grant of £1,000 to Harriet Wood, a donation of £800 to Buglife for a poster on snails and slugs, and show a slight profit of £697. The grant to Harriet was awarded in 2004, but was not paid until 2005. The Buglife poster/leaflet on snails and slugs is available from Buglife, The Invertebrate Conservation Trust, 170A Park Road, Peterborough, PE1 2UF. The contact is nicola.fenton@buglife.org.uk (01733 201 210).

The stock market improved during the year, resulting in an increase in the value of our investments by £5,819, but the rate of interest on the investments remained low, an average of 4.5%.

The Charity Commission have stated that the fundamental principle of charitable giving is that members should not receive more in benefits than they pay in subscriptions. The cost of benefits to the members by way of publications and meetings in the year exceeded the cost of their subscriptions by £7,391. This means that, on average, each member received £18.50 in benefits more than they paid in subscription, and that is why the subscription rate was increased as from 1 January 2006. Will anyone who paid the old rate, please send the balance to the Hon. Membership Secretary, Michael Weideli, 35 Bartlemy Road, Newbury RG14 6LD.

**Pryce Buckle**

**On joining the Conch Soc.**

Phil' Palmer

In an unguarded moment I said to Jan Light "One of the best things I ever did was to join the Conch. Soc.": I meant - from a palaeontological point of view. She suggested writing an article for *Mollusc World* giving reasons why. So Jan is partly to blame. The other 'guilty' party was Cyril Castell, one time member now sadly not with us. He told me "If you want to understand fossil molluscs you should study the living ones". It was the sort of thing one shouldn't need to be told, that there is more to a fossil mollusc than its stratigraphical level and its temporal implications: and he invited me to attend a Conch. Soc. meeting which, then, was held in the Board Room of the Brit. Mus. (Nat. Hist.) as it was then called. He said "Bring your bucket of water along". I was introduced and duly nominated for membership and, during the session on 'member's exhibits', I was invited to demonstrate my experiments with the bucket of water.

I had made four plaster models of the Middle Jurassic ammonite *Leioceras opalinum*, each loaded with increasing quantities of lead. Each was held vertically with the sharp ventral edge just touching the water surface and then released. The different weights, I argued, gave increasing velocities equivalent to a propulsive force applied by the ammonite when jetting water from its funnel. It was then widely held that some oxycone ammonites darted around the Jurassic sea, propelled by water squirted from its, presumed, funnel. The purpose of the experiment was to show that, if an ammonite jetted water from its funnel, the disc-like shape was all wrong for under water propulsion. No one argued against the idea of different weights being equivalent to different propulsive forces, so I was encouraged.

I let go of the lightest model and down it went, edge first. About four inches down it started to turn until it was horizontal and continued in a zig-zag manner to the bottom (Fig.1). This will be familiar to anyone who has thrown a coin in a fountain and seen it zig-zag to the bottom. Ships do the same under a propulsive force and deviate from a straight line, it is called 'yawing'. Repeated release of the models showed the same tendency, to turn and zig-zag, but the heaviest almost reached the bottom before turning and did one 'zig' before hitting the bottom. Apart from one try which went straight down without yawing, they all turned and zig-zagged.

"So", I argued "if the ammonite applied a propulsive force through its funnel, it would move in the opposite direction but turn away from a straight line, a pointless manoeuvre for chasing a prey or escaping a predator. Everyone seemed to agree and a set of probing questions prodded me into thinking less about hydrostatics and more about the ammonite as a living animal. "If it wasn't for propulsion, what was the funnel for?"

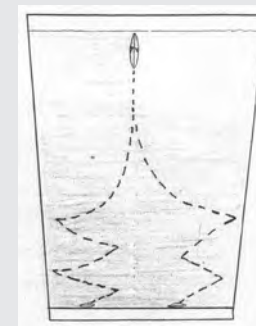


Fig. 1

I could only say "respiration", its primary function. "What was the chambered section of the shell for?". "Changing buoyancy" I answered, still in hydrostatic mode. Then Cyril said "If it cannot move horizontally, all it can do is go up and down - why?". There was a long silence as the mental gears turned. Then the 'penny dropped', and I moved from physics to biology and offered the hypothesis that ammonites sank down with the zooplankton, while phytoplankton was photosynthesising during daylight. Then they rose at night, with other animals which 'grazed' on the plants. The separation of animals and plants during daylight was, then, well known. Even I knew it but had forgotten and did not realise it could be applied to palaeontology. Someone, bless him, said "you can't prove that". True, but I still hold that it is a reasonable hypothesis, but now more complex than I believed at the time. And so, with a bucket of water, a few plaster models and knowledge of the diurnal movement of zooplankton, together with some sharp questions from Conch. Soc. members I moved from physics to biology and found that Cyril was right about learning from living organisms.

Years later, Adrian Rundle collected a sample of Upper Jurassic Kimmeridge Clay from Ringstead Bay, Dorset. After washing away the clay, he was left with a residue of the usual ostracods, forams, broken shell debris, and minute single, and articulated, bivalve shells. Adrian generously gave me part of his dried sample and said that I would find some interesting larval shells in it. He was right, they were oyster larval shells. The preservation was amazing, single valves showing teeth, and a minute articulated pair, 0.3mm, with a complete post-trochophore history recorded in its shell.

Tom Waller had published a paper on the post-trochophore development of living *Ostrea edulis* and *Crassostrea gigas*, superbly illustrated with scanning electron micrographs, from which I was able to 'read' the larval shells I had. An oyster larva goes through all the stages from a bundle of cells to organ differentiation. Fig. 2 shows: A the first shell formed after the larva changes from a trochophore to a veliger. It is made of a single sheet of calcite; B shows growth increments getting crowded as the larva continues growing but not yet feeding; C shows a slot in the left valve in exactly the same position as shown in a larval shell illustrated by Waller. At some genetically determined stage, the blind-ended gut becomes a through alimentary



Fig. 2

track, mouth at one end, anus at the other. Only then does it begin feeding in the plankton (planktotrophic). The Kimmeridge Clay shells showed the exact position on the shell when the larval gut developed as a through tube and began feeding in the plankton.

It is priceless moments like these which would be impossible without knowledge of the living analogues, or descendants, and their behaviour. Charles Lyell's dictum "The present is the key to the past" is as true today as it was in the middle of the 19th century.

Fig. 1: The Bucket

Fig. 2: Kimmeridge Clay, bed 6, Ringstead Bay, Dorset



# A history from a shell souvenir

John E Llewellyn-Jones

This story is based on a roundel, to commemorate Grace Darling (1815-1842) a lighthouse keepers daughter, handed to me by Stanley Francis a member of the BSCC. The name Grace Darling is familiar to many people and has become a semi-folklore character, akin to Queen Boadicea or Lady Godiva whose existences have some basis in historical fact but whose legends have far out stripped reality.

To anyone who has heard of her story they probably have an image of a young Victorian beauty, her long hair flowing behind her as she rows through mountainous seas towards a shipwreck dimly discerned in the background. And this is exactly what the Victorian leaders of the time wanted people to think. It was in fact victorian exaggeration intended to foster the virtues of industriousness, obedience, modesty, piety and bravery in the girls of the age.

During the night of the 7th September 1938 the 400 ton luxury paddle steamer Forfarshire sailed from Hull for Dundee at midnight even though a storm was blowing up. She was described as a splendid and powerful steam vessel of 'great propulsive force, as high if not higher than that of any steamer of the size now afloat' but still carrying sail. There were private staterooms for the very grand; a ladies cabin and one for gentlemen; a deck for steerage passengers and excellent accommodation for horses, livestock, carriages, etc.. Murals by a well known artist of the day, Horatio Mc'Culloch, adorned the saloons. Lavish meals were served on gilt-scrrolled China, huge dinner plates inscribed with a likeness of the vessel.

When she left the port she was carrying approx. sixty crew and passengers and a cargo of superfine cloths, hardware, soap, boiler plate and spinning gear. In the early hours of the morning while sailing northwards off Berwick the paddles stopped and so sail was raised. Unfortunately the paddles, when in good working order are as safe and efficient method of propulsion as any other but when they are no longer working become insuperable barriers to a ship making any headway under canvas, leaving her at the mercy of the elements especially in the violent storm that had blown up. At 4am she drifted onto the Big Harcar Rock in the Farne Islands off the coast of Northumberland and broke in half. The stern sank immediately taking many passengers, who were asleep, with her while the bow remained wedged on the rock. Eight

crew members and a male passenger got away in the ships boat before the Forfarshire foundered, 43 were instantly drowned but 12 others (2 firemen, a carpenter, a cook, a woman- Mrs Dawson, and 4 steerage passengers) held onto the rocks next to the wrecked bow. Unfortunately Mrs Dawson's children and a Revd.Cobb died of exposure and injuries during the night before the Darlings could rescue them.

At 7 a.m. when it grew light enough to see, William Darling, keeper of the Longstone lighthouse and his twenty-two-year-old daughter Grace, saw the bow of the Forfarshire and the people moving about on the rocks three quarters of a mile away. When the tide seemed favourable and with the help of Mrs Darling, Grace and her father launched their coble (A short flat-bottomed rowing boat used chiefly on the NE coast of England) and rowed out to Big Harcar. On arrival Mr Darling leapt out of the coble onto the rocks while Grace stayed on the oars, rowing back and forth to prevent the boat being dashed to pieces on the treacherous reef. As there was no room in the boat for all nine, Mr Darling took on board Mrs Dawson, an injured crew member and three able-bodied men who would help row while Grace attended to the injured. They successfully returned to the Longstone where Grace, Mrs Dawson, the injured crewman and one male passenger disembarked. Mr Darling and two of the Forfarshire crew then rowed back to the big Harcar and brought off the remaining four. The primary source for these events was Mr.Darling's Log Book a record of what went on, on a day to day basis, at the lighthouse. The first account of the sinking of the Forfarshire was printed in the Dundee Courier on the 11th September, 4 days after the event. No mention of the Darlings was included. On the same day an inquest was set up to investigate the cause of the deaths. It found that the boilers were leaking so badly that in the words of James Kelly, a passenger: 'the vessel was quite unseaworthy and should have turned back immediately to Hull'. The jury returned a verdict on the cause of death: 'wrecked on board the Forfarshire steam-packet by the imperfections of the boilers and culpable negligence of the captain in not putting back to port'.

The first account of Grace Darling and her father's exploits was in the Warder of Berwick-on-Tweed in its edition of September 15th 1838. And I quote: 'We cannot close these remarks without alluding to the noble feelings, and heroic conduct of Grace Darling and her father, standing in bold relief, as they do, to the craven and unseamanlike desertion of a part of the crew....The humanity and fortitude of these two respectable individuals is beyond all praise, and cannot fail to bring

down upon them warm thanks and blessings, if not more substantial marks of approbation'. And so the story begins and grows. The first account to be seen by Londoners of Grace Darling's heroic exploit was in The Times of September 19th 1838, twelve days after the rescue. Again I quote: 'Connected with this (the wreck of the Forfarshire), the most calamitous case of shipwreck perhaps that has occurred since the loss of the Rothsay Castle off the Isle of Anglesea, is an instance of heroism and intrepidity on the part of a female unequalled perhaps, certainly not surpassed, by any on record. I allude to the heroic conduct of Miss Grace Horsley Darling... It is impossible to speak in adequate terms of the unparalleled bravery and disinterestedness shown on this occasion by Mr Darling and his truly heroic daughter, especially so with regard to the latter. Surely such unexampled heroism will not go unrewarded?'. The article goes on: 'Surely, imagination in its loftiest creations never invested the female character with such a degree of fortitude as has been evinced by Miss Grace Horsley Darling on this occasion. Is there in the whole field of history, or of fiction even, one instance of female heroism to compare for one moment with this'. And so the story was introduced to the nation as a whole. And so it was through The Times that Queen Victoria read about the heroic exploits of Grace Darling. On November 24th 1838 a letter from the Queen via the Treasury Chambers was sent which included fifty pounds. Grace Darling was now a National heroine. Poets, artists, writers, souvenir hunters and sightseers came to the Longstone Lighthouse in their hundreds to see Grace and where her exploits were carried out to both the annoyance of her father and Grace herself. Numerous souvenirs, pictures, articles and poems were made and written about her and the sinking of the Forfarshire. Even after her death from a chill (probably consumption caught on one of her visits to the mainland) four years later on October 20th 1842 her name continued to be remembered and still is today. In 1987 Royal Dalton produced a porcelain statuette of her with shoulder length black hair and looking like a composite of Elizabeth Taylor and Snow White!. A memorial fund was set up to which Queen Victoria contributed £20 and Wordsworth wrote a hundred-line poem of which seventeen lines were chosen for a memorial stone in St.Cuthbert's Chapel on the Inner Farne Island. Another monument was built in the churchyard in Bamburgh overlooking the sea. It was a canopied tomb with a full-length recumbent Grace complete with oar at her side, fashioned from Portland stone which has had to be replaced over the years. There is a Grace Darling museum in

Bamburgh which has two rooms containing the Coble, a chart showing the 'Farne Island Wrecks', Darling memorabilia, portraits of Grace and her family, pictures of the rescue, her clothes, locks of her hair, books about her written over the last 150 years, mementoes, mass produced souvenirs and relics from the Forfarshire etc. It is a fascinating record of a heroine and Victorian superstar. I finish by saying that Grace Darling was unremarkable as a personality-- pious,

obedient, hard-working, modest, there was nothing to distinguish her from countless other English country girls – except for her fortuitous assistance in the Forfarshire rescue. This single act of great courage was, in a sense, the sum total of her. And thus she was a blank slate for the artists, writers, newspapers and politicians of her age who made good use of her heroic act. And so it was that this roundel was made, remembering a girl who was only helping her father but became a

heroine of the Victorian age .

**A few of the books written about her life.**

Grace Darling, or the heroine of the Farne Islands by G.M.Reynolds 1839 • Grace Darling, or the Maid of the Isles by Jerrold Vernon 1839 • Grace Darling, heroine of the Farne Islands. Her Life and its Lessons by Eva Hope 1875 • Grace Darling and Her times by Constance Smedley 1932 • Grace darling: Maid and Myth by Richard Armstrong 1965 • Grace Darling; a Play by Peter Dillon 1984 • Grace had an English heart by Jessica Mitford 1988  
**Roundel details:** Size: 20 cms x 20 cms. Registered Design Number: 274529 Date 1896. Company: S.Homan and Son, 93 Charrington Street, Camden Town, London.

I have received 2 letters in response to Bas Payne's article in *Mollusc World* 10 – *How much harm does collecting dead shells from beaches do?*

**From Janet Sawyer:**

Dealing with "Persons from Porlock"

In issue No.10 of *Mollusc World* you invited a response to Mr. Payne's article about the question of collecting shell material from a beach or whether, as the passing "Person from Porlock" suggested, it should be left there "for everyone else to enjoy". I must admit to being impressed by the scientific study which Mr. Payne pursued as a result of being faced with this conundrum.

As a person confined by nature to beach collecting I feel that I should be qualified to make some definitive reply, but most of my shelling trips usually involve only a single visit to any particular location. Of the places where I have shelled over a period of days, I can think of two which provide a contrast. Firstly, Fort Aguada beach in Goa where I stayed for a week and shelled in the tiny bay once or twice a day; here the quantity of shells available did diminish as the days passed, although the same effect could have been caused equally well by changes in tidal patterns or food supply. The second is Sanibel Island, Florida, where hundreds of people hunt shells every day without apparently diminishing the quantities available for others to collect, or simply to "enjoy".

Frankly, I do not think I would have been as patient as Mr. Payne, but would have swiftly informed the "Person from Porlock" that few people understand or appreciate Mollusca, that the forces of nature or the local hotel's beach cleaners soon destroy whatever is left behind, and that I for one would most certainly cease to "enjoy" life itself if obliged to cease collecting.

*continued from page 20*

advice from the Society concerning the creation of a possible new Special Area of Conservation (SAC) for the priority species *Vertigo angustior* at Garron Point, Aberdeenshire. The Conservation Officer, after consulting other Society members returned a summary to SNH. (*Since the AGM the Society has been informed that SNH have decided to include Garron Point in a list of sites to be sent to the EC as candidate SACs*). • Several Society members assisted in the BAP priority species (e.g. for *Anisus vorticulus* and *Sementina nitida*) annual reporting process.

**Associations with other organisations:**

The Conservation Officer continues to attend conservation committee meetings of The Sussex Wildlife Trust. He wrote an article for the 'Adastra' magazine (Adastra 2005 23 – 26,

Sussex Biodiversity Record Centre, Henfield, West Sussex) on how the new name changes detailed in J. Conch. (38: 607 – 637) would affect species in Sussex. Adastra is presented at the annual Biological Recorders Seminar of the Trust.

**Society Talk:**

The Conservation Officer presented a talk to the Society in October 2005 on the theme, "Molluscs and favourable conservation status – what does this mean"?

**The Conservation & Recording Committee:**

The newly formed Conservation & Recording Committee, held its inaugural meeting in October 2005. The Committee includes the Marine and Non-marine Recorders, Conservation Officer and five other members. Committee membership includes Jan Light, Geraldine Holyoak, Martin Willing, Brian

**From Adrian Brokenshire:**

Early in 2006 a friend was off to India to work for a couple of months and was asked that whilst there could she collect a few shells off beaches with locality details for me. This she was quite willing to do if her time permitted.

Well, she did not have much spare time but did manage to get to a beach at Coconut bay, Kovallam, south India. Having a good search of strand and water's edge, she could find no shells! A local child could see what she was doing and directed her to some mounds of shells near some fishing boats. The child explained that the shells belonged to her father who collected up all the shells on the beach in the early mornings (I assume for various shell trades in some form). On hearing this tale, I was initially a little horrified that the shells were being collected in this manner and that there were no shells evident along the beach (also disappointed of course that I would get no shells from that locality). On giving it a little more thought, there were several points that came to mind: 1) here was someone trying to make the best of local resources and supplement his living; 2) that to make it worth this person's time and effort there must be enough shells on the beach to go out each morning and collect them, being replenished by tide and wave action; and 3) at least dead shells were being collected and he was not supplementing his living by live collecting.

In general, collecting dead shells on beaches does no harm, after all, how many readers have been on beaches where the strand and water's edge are regularly walked by locals and visitors and shells are broken by their actions? I have seen on many occasions, strandlines and drift-lines at the water's edge totally obliterated by horse riders. But, have been confident in the fact that given the right tides, wave and weather action, more shells will soon appear.

Eversham (Chair), Mary Seddon, Michael Weideli, Robert Cameron and Julia Nunn as a co-opted member. This new committee reports annually to Council.

**Conservation Work throughout the Society:**

*Many other conservation activities have been undertaken throughout the year by many Society members in both an amateur and professional capacity. These are mostly too numerous to mention individually, but range from the Society's Malacolimax tenellus and Phenacolimax major projects to the work of individuals. Thus, for example, the Gloucester Wildlife Trust received a report from D. Long supplying results of surveys undertaken over a two year period in the Forest of Dean.*

**Martin Willing 2/2006**



## The June 2005 Durham field meeting and observations from other sites in NE England

Knitsley ravine, County Durham is accessed via a spectacular railway viaduct which now carries a long-distance footpath / cycle track. The site is very varied, consisting of sandstone / Coal Measures valley side woodland with a rich ground flora, sandstone screes probably formed when rock was removed for construction of the facings for the viaduct, and an alder carr which is considered to be the finest in the county. Twelve land molluscs were found in the sandstone areas, including a shell of *Zenobiella subrufescens*. In the alder carr the species count increased to 16 live animals including *Columella edentula*, *Acanthinula aculeata*, *Euconulus alderi*, *E. fulvus* and a fine specimen of *Limax maximus* crawling up a twig. When the Society visited the other well-known alder carr in County Durham, at South Burn, Waldridge Fell, 23 species were recorded in 1998. While the South Burn used to be black with coal dust from the old pit workings, the alder carr on either side escaped disturbance from this source and in many years the site is too boggy to be entered even wearing wellingtons. However the Knitsley site may have seen massive disturbance when the railway viaduct was built and this may have had a long-term effect on the number of mollusc species present.

A steep wooded valley by Egglestone Abbey Bridge on the River Tees, owned by Durham County Council was among the sites visited. This is a mixture of sycamore, oak, ash and hornbeam on limestone, with plenty of fallen timber and little evidence of disturbance away from the riverside path. Efforts to find molluscs were hampered by fairly continuous rain and deep gloom, such that this was the only site covered on that day. Analysis of a leaf litter sample by sieving helped to boost the results to 20 species by finding the smaller ones such as *Acanthinula aculeata* and *Punctum pygmaeum*. The most interesting record was *Limax cinereoniger*, found by pulling a hank of moss from the ground. The startled slug recoiled, behaviour more like that expected of a mammal. This is a species of particular interest to the

County Council's Conservation Officer and which had not been previously recorded in the area.

One site in the County well worth a visit by anyone interested in natural history is Low Barns Nature Reserve, Durham Wildlife Trust (DWT), this area of alder woodlands, gravel pits, riverside and remnants of Coal Measure woodlands boasts an extensive new walkway across a newly created wildlife lake, giving an excellent views of aquatic life, particularly for children. If colonised effectively from the other wet areas on the site, this may develop into a quality habitat with time. A seasonally flooded alder wood with lying dead timber yielded twelve species, a small pond dug for educational purposes had six common species but the adjacent stream had *Ancylus fluviatilis*, a species probably under-recorded from the County.

Heselden Dene is one of the smaller of the County Durham wooded coastal denes cutting through the Magnesian limestone belt. This is also a Durham Wildlife Trust reserve but suffers from considerable vegetation disturbance as it is close to a sizeable ex-coliery village. Seventeen species were found including *Columella edentula*, *Lauria cylindracea* and *Ena obscura* but the nearby larger Hawthorn Dene (also a DWT nature reserve, visited by the Society in 1998) gave 41 species but has only a small agricultural village nearby and an intact ground flora. Further thoughts on the effects of disturbance prompted a visit to the urban local nature reserve of Hetton Bogs near Houghton-le-Spring. This area has a long history of disturbance, starting with agricultural mills followed by industrial mills at several points along the streams running through the site, followed by colliery activity. The area is within walking distance of a sizeable population. Only nine common species were found, despite the development of apparently promising wetland vegetation.

Proximity to human population does not always rule out interesting finds. Among the twenty species found in a relatively short time in the sycamore woods on steep sandstone slopes below the castle and above the River Coquet at the small town of Warkworth, Northumberland was *Spermodea lamellata*. This was also found at Raintonpark Woods, near Leamside, Durham at the 1998 field meeting.

## Ancient jewellery from the Med

Shells are well-known as objects of adornment today, but the practice may date back for over 100,000 years.

Two years ago researchers working on prehistoric caves in Southern Africa found what was believed to be the earliest known pieces of jewellery made by modern humans. These were perforated *Nassarius kraussianus* shells. The shells were found in clusters of similar sizes, with perforations of similar shape and holes, and the scientists believed that they had been used to make necklaces or bracelets. These shells had been brought to the caves, as the nearest rivers at the time were around 20 km away. The researchers suggested that traces of red ochre on the shells also indicate that either the beads themselves or the surfaces against which they were worn were coated with the iron oxide pigment. These discoveries prompted researchers on Cave Systems in the Mediterranean to review their shells finds. A paper in Science in June 2006, published information on the finds of perforated marine gastropod shells preserved in archaeological sites. At Oued Djebbana in Algeria, about 200 km inland from the ocean, the nature of the flint tools incorporated in the

sediments with the marine shell suggested an age of at least 90,000 years. At the other site, Skhul - a cave on the slopes of Mt Carmel, radiometric dates obtained from sediment matrix adhered to one shell of *Nassarius gibbosulus* indicate that the shell bead comes from a layer containing 10 human fossils dating to 100,000 to 135,000 years ago, about 25,000 years earlier than previous evidence for personal decoration by modern humans in South Africa. The authors suggest that the remoteness of these sites from the seashore and a comparison of the shells to natural shell assemblages indicate deliberate selection and transport by humans for symbolic use. Co-author Professor Chris Stringer of London's Natural History Museum says "We're confident these were artificially made. The position of the holes are exactly where people drill shells like this when they are making necklaces." In his view the most exciting information relates to understanding the evolution of human behavior. "The interesting thing about necklaces and this kind of behaviour is that it is symbolic. When we wear items like this, we are sending a message.... The message may be that we are powerful, or wealthy, or sexy, that we're part of a particular group, or to ward off evil.

*They're not just decorative; we think they had a social meaning."* The discovery of 75,000-year-old *Nassarius* shell beads at Blombos Cave in South Africa challenged the idea that there was fortuitous mutation in the human brain which triggered an explosion in human creativity 50,000 years ago, leading to a sudden appearance of personal ornaments, skilfully-crafted art, novel tools and weapons. In Professor Stringer's view the dates for beads from Skhul and Oued Djebbana further weaken the "cultural explosion" scenario. The marine shells from Skhul are in the Palaeontology Department of the Natural History Museum in London, while the shell bead from Oued Djebbana is in the collections of Museum of Man in Paris.

To read more about these finds:

<http://news.bbc.co.uk/1/hi/sci/tech/5099104.stm>

To listen to the BBC radio programme online check out:

Leading Edge Archive for 22nd June 2006; entitled, **The Beginnings of Bling** <http://www.bbc.co.uk/radio4/science/leadingedge.shtml>

To download the Science podcast search for programme on 23rd June issue:

<http://www.sciencemag.org/about/podcast.dtl>

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# The Scottish Biodiversity List: Non-Marine Molluscs

## Adrian T. Sumner

In December 2005 the Scottish Biodiversity List (hereafter referred to simply as the List) was published. This is a "list of flora, fauna and habitats considered to be of principal importance for biodiversity conservation as required by the Nature Conservation (Scotland) Act 2004". There are in fact four lists: Terrestrial and Freshwater Species; Terrestrial and Freshwater Habitats; Marine Species; and Species and Habitats identified as important by the Scottish public. Needless to say, the Scottish public did not identify any molluscs as important! In addition to these lists, there are various documents explaining how the Scottish Biodiversity List was produced.

For non-marine molluscs, the list was produced essentially by going through the *Atlas of the Land and Freshwater Molluscs of Britain and Ireland* (Kerney, 1999), and identifying species that were found in five or fewer 10 km squares in Scotland. A few species, such as the freshwater pearl mussel *Margaritifera margaritifera* are nevertheless included in the List because of the national and international importance of their Scottish populations, although they are found in more than five squares. I was asked to comment on this draft list of non-marine molluscs before publication, and was able to point out some changes since the Atlas was published.

The List as published (which uses the names given in the Atlas, rather than those proposed by Anderson (2005)) is given in Table 1, and includes 21 species. Some are rare throughout Britain, but others are rare only in Scotland, where they are at the limit of their ranges. In addition to the list of rare species, there are lists of "data deficient" and "extinct" species. No non-marine molluscs were put in the data-deficient category.

A few species require further comment, either because of differences from the Atlas data, or because they could perhaps have been put in a different category. Most slugs of the *Arion hortensis* complex recorded in Scotland are actually *A. distinctus* and *A. owenii*, with very few *A. hortensis* s.s.. However, in view of the relatively recent separation of these species, and the small number of people investigating them, I would have been inclined to put *A. hortensis* in the "data deficient" category of the List.

*Candidula gigaxii* is represented in the Atlas by a single record from 1930, and thus might have been placed in the "extinct" category; however, I rediscovered it a few years ago (Kerney, 2002), and it seems to be holding its own along the coast at and near North Berwick.

The mud snail *Lymnaea glabra* is the subject of a Scottish Action Plan (Macadam, 2005). Although the Atlas shows only four modern Scottish sites, the total has now been increased to at least nine by the Mud Snail Study Group. Because of its conservation interest, and the vulnerability of its habitats, however, it still seems appropriate to include it on the List.

*Truncatellina cylindrica* is only represented by old records in the Atlas, but was recently discovered by Gordon Corbet living in Fife on the north side of the Firth of Forth (Kerney, 2001).

The consultation process also allowed species to be removed from the draft list. *Bithynia leachii* is shown in the Atlas as being present in only two 10 km squares in Scotland, but my recent studies (Sumner, 2006, in press) have shown it to be widespread in the Forth & Clyde and

Union Canals, as well as in Strathclyde Loch near Motherwell, so that it has now been recorded in at least twelve 10 km squares and thus no longer qualifies for the List.

Three species of non-marine molluscs are regarded as extinct in Scotland. Of these, *Helicigona lapicida* appears to have been a temporary Victorian introduction at Hawick in the Borders (Kerney, 1999). On the other hand, while there are no modern records for the shelled slugs *Testacella haliotidea* and *T. scutulium* in Scotland, these species are probably seriously underrecorded (Kerney, 1999), and should, perhaps, have been put in the "data deficient" category.

The Scottish Biodiversity List can be studied in full at [www.biodiversity.scotland.gov.uk](http://www.biodiversity.scotland.gov.uk). It is intended to review it every five years. Meanwhile, it is regarded as "a tool for public bodies and others doing their Biodiversity Duty, and is an important source of information and guidance for all". It will be used to develop priorities for species conservation, as well as developing Land Management Contracts. On the other hand, it is not intended to develop action plans for all the species and habitats on the List. Essentially the Scottish Biodiversity List is an attempt to define what species (and habitats) are rare and/or important in a Scottish context, and thus point out that these need special consideration.

### References

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 Macadam, C. (2005) Mad about mud snails. *BRISC Recorder News* No. 59, pp 2–3. (Obtainable at [www.brisec.org.uk](http://www.brisec.org.uk))  
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Table 1. Non-marine molluscs on the Scottish Biodiversity List

Scientific name (as given in the List)	English name (as given in the List)	Scientific name according to Anderson (2005) (where different)	Status in England & Wales
<i>Anodonta cygnea</i>	Swan mussel		Common
<i>Arion hortensis</i>			Common in south
<i>Azeca goodalli</i>	Three-toothed moss snail		Widespread
<i>Candidula gigaxii</i>			Common in south-east
<i>Cecilioides acicula</i>	Blind (or agate) snail		Common in south-east
<i>Cochlodina laminata</i>	Plaited door snail		Common
<i>Hydrobia ventrosa</i>	Spire snail	<i>Ventrosia ventrosa</i>	Widespread
<i>Lymnaea glabra</i>	Mud pond snail	<i>Omphiscola glabra</i>	Declining
<i>Margaritifera margaritifera</i>	Scottish pearl mussel		Declining
<i>Monacha cantiana</i>	Kentish snail		Common in south-east
<i>Oxychilus helveticus</i>	Glossy glass snail	<i>Oxychilus navarricus</i>	Common
<i>Pisidium conventus</i>			Rare
<i>Pisidium henslowanum</i>			Common
<i>Succinea oblonga</i>			Rare
<i>Theodoxus fluviatilis</i>	River nerite		Common
<i>Truncatellina cylindrica</i>			Rare
<i>Vertigo alpestris</i>	Mountain whorl snail		Local
<i>Vertigo angustior</i>	Narrow-mouthed whorl snail		Rare, declining
<i>Vertigo genesii</i>			Very rare
<i>Vertigo geyeri</i>	Whorl snail		Rare
<i>Vertigo modesta</i>			Very rare



## Will ye no come back again? Clausiliids in South Yorkshire Woods

Robert Cameron

Ever since I moved to Sheffield, about 12 years ago, I have accumulated casual records of snails in the city, and in the area around it. In addition, as recorder for the Sorby Natural History Society, I have led parties looking at many of the ancient woodlands that can be found within the city limits. Recently, I took a group of learners, sponsored by Yorkshire Museums, Libraries and Archives, into the ancient Ecclesall Woods, within the city boundaries. This confirmed the existence of a puzzle that has worried me for several years.

Some of these woods have very rich mollusc faunas, with more than 30 species found in quite small areas. The best so far is Little Matlock Wood, with 35, including *Limax cinereoniger* and *Arion owenii*. In none of these woods, nor in the city generally, are there any records of clausiliids, and there seem to be no older records either.

Apart from *Balea perversa/heydeni*, which are hard to find anyway, the only clausiliids that might be expected are *Clausilia bidentata* and *Cochlodina laminata*. Consulting Mike Kerney's (1999) *Atlas of the land and freshwater molluscs of Britain and Ireland*, one can see that there are areas, especially in the midlands, and up to Sheffield, in which these species are missing, or have not been recorded recently. Kerney follows David Holyoak in attributing this rather strange pattern to the effects of industrial pollution, especially for the *Balea* species and *C. bidentata*. Acid rain in particular might have an effect. In Britain, *C. laminata* seems to have a distinct preference for base-rich soils, and since Sheffield sits on the Carboniferous Coal Measures, mostly sandstones, which give rise to generally rather acid soils, its absence might have other causes. Nevertheless, most of the Sheffield woods have rich, damp spots within them, with plants like dog's mercury and wild garlic, and (today at least) a good fauna of large helicoid snails.

However, over the last 30 years or so our air has become much cleaner, and it is clear that many species that were badly affected have made remarkable recoveries. Thus, early records indicate that *Cornu aspersum* (ex *Helix aspersa*), and the two *Cepaea*

species were very uncommon in the city. Now, they are present in very large numbers, to the extent that I get continual requests to explain why they are so common. Similarly, *Lauria cylindracea* can be found on many walls, and in woodlands within the city. Recent records of invaders, such as *Hygromia cinctella* reinforce the impression that the city is now quite a congenial place for snails. I hear similar stories from other industrial cities in the northern half of England.

So, why have the clausiliids not returned? Will they do so eventually? The only clue I have comes from Anston Stones Wood, a magnificent ancient wood in a gorge cut through Magnesian Limestone about 20 miles east of Sheffield. This is one of the richest spots in the country, and has been looked at by many conchologists over the years, including Barry Colville and Adrian Norris. It holds 47 species. The only new record I was able to obtain recently was of *Cochlodina laminata*, just two half-grown but living specimens (*Clausilia bidentata* is abundant there). It looks as though it has just managed to recolonise the wood. As with other sites in the Eastern part of England, it used to have live *Helicigona lapicida*, which may have been similarly affected by acid rain, but only long-dead shells have been found in recent years. It may take a long time for recolonisation to occur.

Clausiliids are not generally thought of as garden species. I suspect that there are quite a lot of places within the city where *C. bidentata* in particular could live quite happily, if only it could get there; it is perhaps much less likely to do so than species that are often found in very "human" habitats. It is abundant and widespread in the limestone White Peak, just west of Sheffield, but these populations are separated from the city by high moorland in which it is hard to find anything but a few slugs. Natural, active dispersal is hard when suitable habitats are fragmented, and there are "deserts" in between.

I shall keep looking! One of the problems with much of our recording is that when we find a species new to our area, we cannot tell if it has really just arrived, or whether it was there all along, perhaps scarce, and nobody found it. It is famously impossible to prove a negative, but at least in Sheffield I can say that there are lots of negative records, so that arrival and spread can be studied with some confidence. It would be good to know what urban records we have nationally for clausiliids, and whether there is any evidence, anywhere, of a recovery.

continued from page 19

Both these wooded ridges are private property. They are traversed by public rights of way. We are grateful to Bob Steele for permission to visit Suckley Wood.

Molluscs found on the Suckley Hills, Worcestershire, 20th May 2006. Central grid reference SO734518. (L = live animal seen. Some were also seen as shells but this is not recorded in this list).

*Aegopinella nitidula* L.  
*Aegopinella pura* L.  
*Arion ater* agg L.  
*Arion distinctus* L.  
*Arion hortensis* seg L.  
*Arion intermedius* L.  
*Arion subfuscus* L.  
*Boetgerilla pallens* L.  
*Carychium tridentatum* L.  
*Cepaea hortensis* L.  
*Cepaea nemoralis* L.  
*Clausilia bidentata*  
*Cochlicopa lubricella* L.  
*Cochlodina laminata* L.

*Deroceras reticulatum* L.  
*Discus rotundatus* L.  
*Ena obscura* L.  
*Helix aspersa* L.  
*Limax maximus* L.  
*Nesovitrea hammonis* L.  
*Oxychilus alliarius* L.  
*Oxychilus cellarius* L.  
*Pomatias elegans* L.  
*Punctum pygmaeum* L.  
*Trichia hispida* L.  
*Vitrea contracta* L.  
*Zenobiella subrufescens* L.

Molluscs found at Hallhouse Wood, Worcestershire, 20th May 2006. Central grid reference SO730515. (L = live animal seen. Some were also seen as shells but this is not recorded in this list).

*Arion ater* agg L.  
*Arion cf hortensis* agg L.  
*Arion subfuscus* L.  
*Cepaea hortensis* L.  
*Clausilia bidentata* L.  
*Cochlicopa lubricella* L.  
*Cochlodina laminata* L.  
*Deroceras reticulatum* L.  
*Discus rotundatus* L.  
*Ena obscura* L.  
*Lehmannia marginata* L.  
*Oxychilus cellarius* L.  
*Trichia hispida* L.  
*Zenobiella subrufescens* L.

## 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  
**WKSHP** = Workshop on molluscan topics  
**YCS** = Yorkshire Conch. Soc. events

**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 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 30 September**  
Bredon Hill National Nature Reserve, Worcestershire.

Leader: Harry Green (01386 710377) (home), 07778 198476 (mobile)  
harrygreen@britishlibrary.net

Following on from a visit to Bredon Hill on 1 October 2005 (*Mollusc World* No. 10, pages 4-5) we are visiting the NNR on a different part of the Hill on Saturday 30 September 2006. The NNR lies on the western flank of Bredon Hill and access is via the village of Bredons Norton which itself is just east of the B4080, a road running south from the A4104 near Pershore to the

village of Bredon. Turn E. at SO 926391 along a minor road leading to Bredons Norton. After about 400m where the road turns sharply S., keep going straight on E. up the hill. At a T-junction turn N. (left) and follow this narrow road until it crosses a cattle grid at SO 938398. Park immediately after crossing the grid on the right. Meet here at 10:00h. From this point it is a short walk uphill into the NNR. The reserve contains a wide variety of habitats: calcareous grassland, scrub, ancient trees and fairly extensive wet areas with rushes all lying on the Mid and Upper Lias and reaching up to the oolitic limestone escarpment. A striking feature is the great mud slip, which hasn't slipped for many years!

**FIELD - Saturday 7 October:**  
Bracklesham Bay, West Sussex. Marine/fossil joint meeting with Newbury Geology Group and Kent Geologists' Group.

Leader: Adrian Rundle (020 8878 6645) (home)

The Bracklesham Beds are on the foreshore between the tide marks and consist of clays and silts containing many molluscs. Samples from certain of the harder beds when processed at home produce a myriad of minute molluscs. For collecting, an old knife or similar for lifting the fossils out of the substrate and plenty of plastic bags, tubes etc. will be needed. Members should bring wellingtons and suitable waterproof clothing.

Meet at 11.30h at the car park close to the beach near the Club House, grid ref. SZ 838937. Low tide 0.2 m is at 17:40h bst.

**YCS - Saturday 14 October**  
North York Moors. Contact: David Lindley (0113 2697047) (home) david.lindley3@btinternet.com

1 km 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.