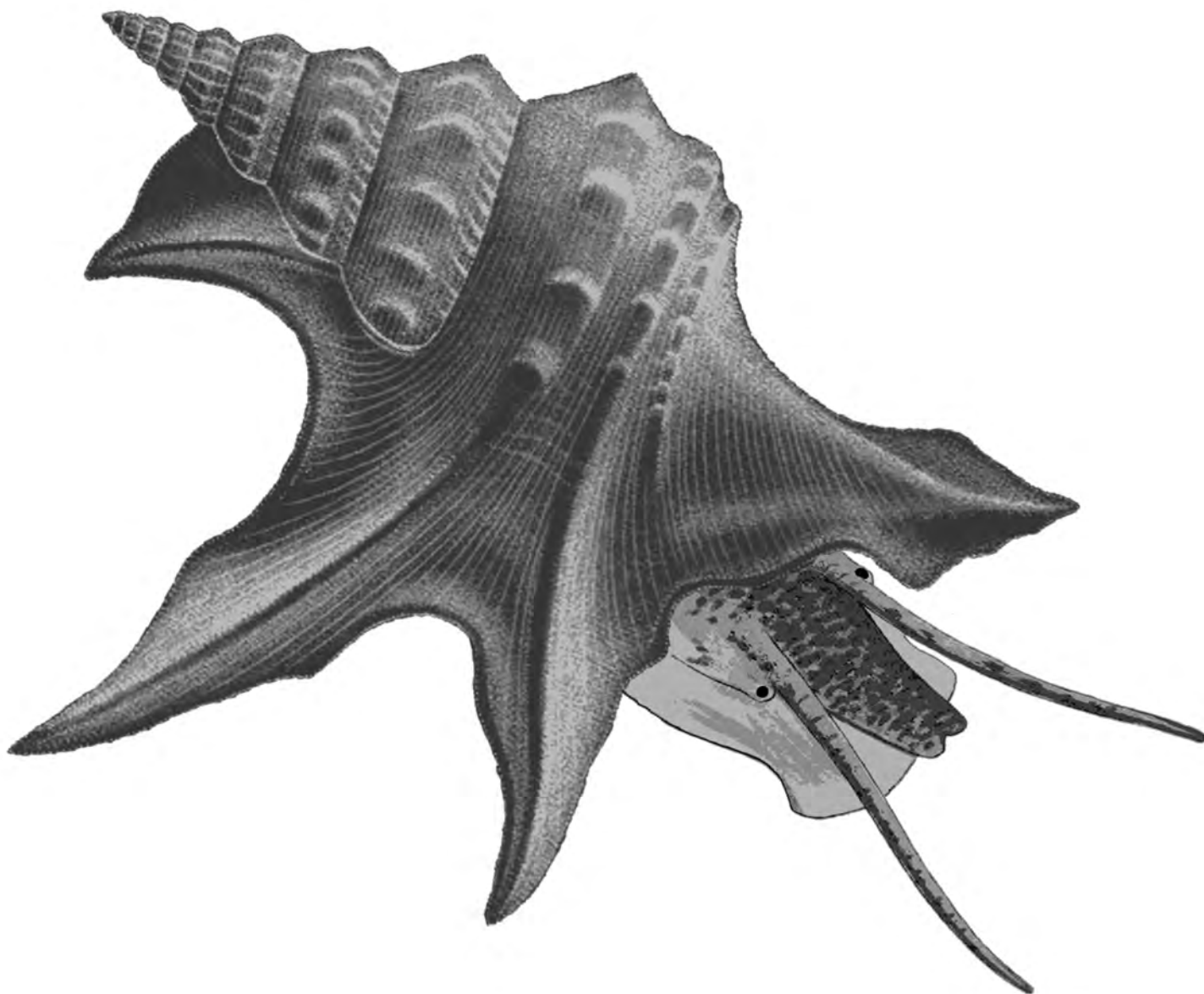


Mollusc World

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THE MAGAZINE OF THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN & IRELAND

Editorial

We are back on track with a full 24 page issue. I'm pleased to have received plenty of copy especially the illustrated field meeting reports – many thanks to all contributors. However, as usual, I have very little material in hand and would encourage all members to keep supplying me with articles. Please notice my change of address and email at the bottom of the page. Post and emails sent to the old address will still reach me but it takes a little longer. Could I

take this opportunity of mentioning the size of email attachments. Digital images of around 600kB in size are adequate for reproduction in *Mollusc World* and, in many cases, half that would suffice. I have received attachments as big as 5Mb! These take 20 minutes to download, so please keep emails to a size of 1Mb or less. If you do need to send larger files, please contact me first.

I hope I'm not overstepping my editorial prerogative here, but Members may like to

know of the new Field Studies bivalve guide: Killeen, I.J., Aldridge, D.C. & Oliver, P.G., 2004. *Freshwater bivalves of Britain and Ireland*. Field Studies Occasional Publication 82. FSC Publications, Shrewsbury. 114pp. Available from Field Studies Publications, Preston Montford, Shrewsbury SY4 1HW. £20.

Copydate for *Mollusc World 7* is 14 January 2005.

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.

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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	£23.00
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De la Beche's *Campanile*

Stephen K. Donovan

Brown (2004) recently demonstrated the link between Sir Henry Thomas De la Beche (1796-1855) and 'his' Pacific cockle, *Nemocardium bechei* (Reeve). This association was a surprise to me because De la Beche's international scientific links were with the Caribbean, particularly Jamaica, not the Pacific. He visited Jamaica for a year, from 21st December, 1823, until 28th December, 1824. While attending to business related to his Jamaican estates, he also found time to map the geology of the eastern half of the island (De la Beche, 1827), producing what is considered to be the first true geological map of part of the western hemisphere (Draper & Dengo, 1990; Draper, 1996).

In his 1827 paper De la Beche mentioned fossil molluscs from various horizons, but only figured one, a fragment of a large 'Cerithium' or, in modern terminology, *Campanile* sp. Jung (1987, pl. 1.1) figured a more complete specimen (= *Campanile* sp. A in his nomenclature) over 435 mm in length, that is, of comparable size to *Campanile giganteum* (Lamarck) from the Eocene of northwest Europe.

In those early days of stratigraphic correlation, when geologists were still groping for the correct criteria to use, even in local comparisons, De la Beche's made mainly lithostratigraphic correlations between Jamaica and (primarily) the British Isles. That is, he compared similar rock types from the two areas and considered them to have been coeval. *Campanile* sp. disrupted this scheme. De la Beche compared the lithologies of the limestones that yielded *Campanile* sp. with the Permian Zechstein limestones of northeast England and the Jurassic limestones of Europe. However, this fossil forced him to suggest, grudgingly, that "... it might be inferred, that the white limestone of Jamaica belongs to the same epoch of formation as the *Calcaire grossier* of Paris and the London Clay of England" (1827, p. 171), that is, Eocene of modern terminology. In this he was correct, whereas most of De la Beche's lithostratigraphic correlations were erroneous; the correct tools for such comparisons are now recognised to be fossils (=biostratigraphic correlation).

This use of giant *Campanile* spp. across the Atlantic represents one of, and probably the first, example of intercontinental biostratigraphic correlation, giving the common specimens of *Campanile* sp. A in the Jamaican Eocene a special significance. But why is such a significant taxon still in open nomenclature? Preservation is almost invariably as internal moulds, so a description of the external features of the shell has not been possible. Donovan & Blissett (1998) uniquely illustrated a section of a cast, infested with the trace fossil *Entobia* isp. (=clionid sponge borings). However, specimens of external moulds are now available, collected by Mr. R.W. Portell of the Florida Museum of Natural History, Gainesville, so the Jamaican species may soon glory in its own name. What better than to name it in honour of the man who first considered its significance over 175 years ago?

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Stephen Donovan

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Notice to all Members of the Society

The Society has received a bequest from a former member, the late Jennifer Crowley. This consists of her shell collection and a small general library and these are to be sold to members and the proceeds will go into the Society's funds. With the exception of a few older and more valuable works which will be auctioned, the books will be sold at forthcoming meetings and members are

invited to request a priced list of the books which are for sale from the President, Jan Light. Members who may be interested in buying shells from the collection are also invited to contact Jan for more information and to arrange viewing etc. Enquiries should be made promptly and items will be sold on a first come, first served basis. Any shells which remain unsold at the end of April 2005

will be offered for sale at the BSCC April meeting to be held in Romford. All the proceeds will come to this Society. The small book auction will be advertised in *Mollusc World* in good time.

Contact Jan on 01483 417782,
email jan@janthina.co.uk

Spain's Disappearing Door-Snail

S. Peter Dance

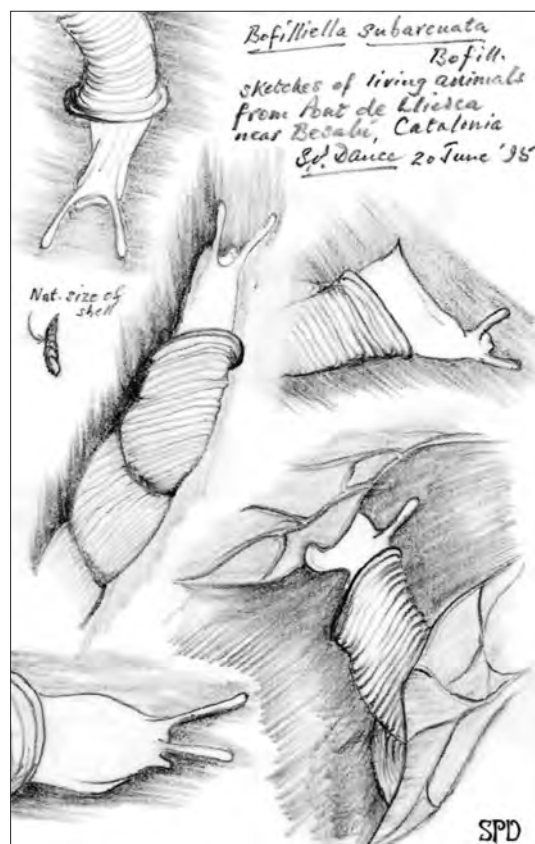
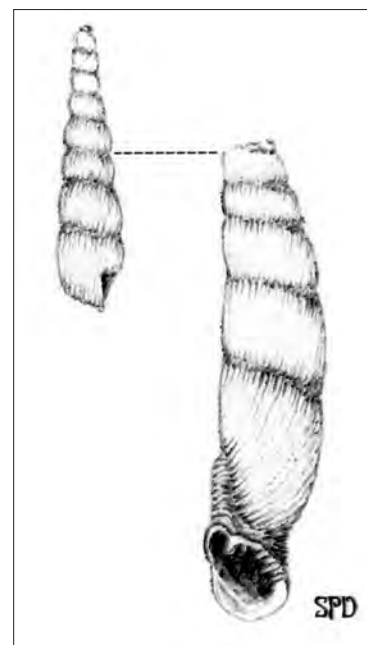
In 1897 Arturo Bofill described as new to science a diminutive door-snail found at Liadó, in the Alt Empordà region of Catalonia, west of Figueres. Now known as *Bofilliella subarcuata* and regarded as one of the rarest European members of the family Clausiliidae, it has a very restricted distribution in the north-eastern part of Catalonia where it has mostly been found in caves, gullies and undisturbed, usually stony places. There are very few reliable locality records for this rare species, so it is worth giving details of the two localities where I have discovered it, both within the previously known range of the species, both drastically altered since I first visited them. To some rapid sketches I made of living specimens in movement, I am delighted to be able to add a fine watercolour drawing of one, executed by National Museum of Wales artist, Chris Meechan.

B. subarcuata is blind, a feature which may account for its largely subterranean habit. Its shell is colourless, translucent and noticeably arched in profile, hence the specific epithet. It loses its earlier and straighter whorls at or before maturity. Except for the first three or four whorls, the entire shell is finely, vertically ribbed. The upper edge of the projecting aperture has a deep sinulus, a strong parietal lamella, a smaller columellar lamella and three interlamellar folds. The length of a complete, mature example is conjectural, but assuming a total of 10½ connected whorls, an average-sized shell would be approximately 12mm long. The only species in the genus *Bofilliella*, it comes nearest in appearance, among European Clausiliidae, to the larger *Laminifera pauli* (Mabille, 1865), another rare species,

restricted to a few localities in the foothills of the Basses Pyrénées, south of Bayonne.

I first became acquainted with *Bofilliella* on 21 September 1984 when I parked my car in an untidy lay-by, rank with wild flowers and brambles, two kilometres west of the village of Santa Pau and about 13 km south-west of Besah in La Garrotxa region of Catalonia. On a narrow ledge of limestone, under ivy (*Hedera helix* L.), I found three bleached, worn shells. It is unusual for this species to occur in such an open site and I assumed the specimens had been washed down the vertical wall of rock from above (this record was published in *Journal of Conchology* 32: 258, 1986). A longer visit a few days later failed to realise more specimens. Then, after ten years of fruitless searching for this diminutive and elusive door-snail over much of north-eastern Catalonia, my luck changed.

On 30 May 1995 my wife and I discovered the stone footbridge spanning the Rio Llierca, about 9km north-west of Besalú, south of Sadernes and north of Montagut, also in La Garrotxa region. Very old and picturesque, the Pont de Llierca links the narrow road on the western side of the river to an even narrower footpath on its rugged eastern side. Lorries scatter limestone dust behind them as they hurtle down this road from a quarry at Sadernes. East of the bridge all is quiet and peaceful. On that day in May it also looked



inviting, the unyielding limestone cliffs and boulders being invitingly softened by a damp wood containing turkey oaks and clumps of box and holly, offering welcome shade and a promise of excellent snailing. On and among rocks I soon found a variety of snails, or their empty shells, belonging to such genera as *Cochlostoma*, *Chondrina*, *Abida*, *Clausilia* and *Helix*. Then, enticingly perched on a carpet of leaves, I found a perfect, fresh but empty, *Bofilliella subarcuata*!

I re-visited the Pont de Llierca site on 2 June and collected a large quantity of leaf litter. From this I obtained fifteen adult specimens and a few examples of the discarded apical whorls. Two of the adults were alive and these I placed in a refrigerator, to keep them cool. When I removed them, on 7 June, they crawled about in the sun. I sent them to the National Museum of Wales in Cardiff and one of the two became the subject of Chris

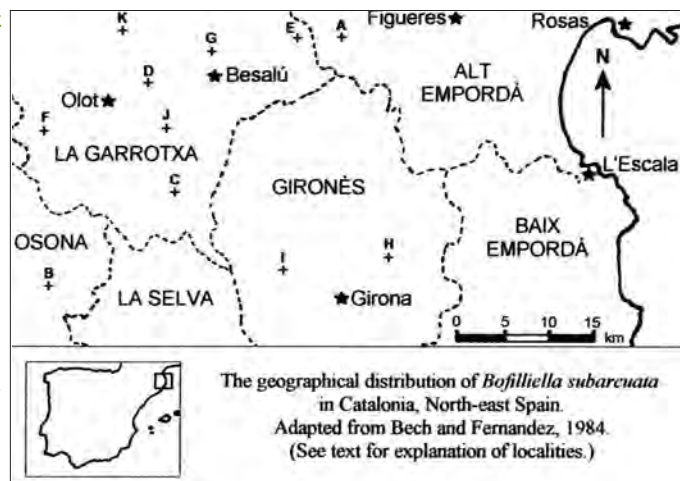
Meechan's excellent watercolour drawing. On the same day, 7 June, I collected another bag of leaf litter and retrieved some more specimens, including two living adults and a single living juvenile. I placed the living snails in ajar of leaf litter and by morning they had burrowed down into it out of sight. On 10 June they had moved to the surface again. I collected more specimens later in 1995.

The subsequent history of these two sites makes depressing reading. On 24 April 2000 I went to the Pont de Llierca, expecting to find this curious little snail secure in its unspoilt setting. Instead, I found myself surveying a scene of devastation. The vegetation had been largely cleared away and the ground was scarred with the tell-tale signs of bulldozer tracks. What had seemed an inviolable site of biological importance was now a wasteland presided over by a series of metal pylons, one of

them sitting directly upon the precise spot whence I had retrieved living specimens of one of Spain's rarest molluscs. At about this time, too, I decided to revisit the Santa Pau site. As I approached it I realised that the road was in a much better state than it had been a few years earlier. The site itself, on the other hand, was not. A road-widening scheme had removed it completely.

The accompanying map shows all the sites for *Bofilliella* as recorded by Miguel Bech and Guillermo Fernandez (1984), plus my two sites (there may be others which I am not aware of). The sites listed by Bech and Fernandez are: A) Lladó; B) Cave Bora Fosca, Tavertet; C) Cave dels Ermitons, Sant Aniol de Finestres; D) Cave del Orri, Tortellà; E) Sagarò; F) Sant Privat de Bas; G) Mina Can Trompa, Beuda; H) Celrà; I) Abyss No: 2 Roca Leiga, La Salut. The two sites I have added are: J) 2km west of Santa Pau, about 13km south-west of Besalú; K) near Pont de Llierca, about 9km north-west of Besalú.

Although it is likely to be present in other scattered localities throughout its restricted range, the survival of *Bofilliella subarcuata* may not be guaranteed for much longer. Sadly, the door-snail described by Arturo Bofill as new to science, a little over a century ago, may disappear from our view before we have even made its acquaintance properly.



A follow-up visit to south Devon shores

John Llewellyn-Jones

The results of the Society field meeting on the 27th and 28th September 2003 were rather poor (see *Mollusc World* 4), so Janet Sawyer, Judith Nelson, Celia Pain and myself decided to resurvey Budleigh Salterton and Dawlish Warren on 6th and 7th of May 2004.

Since our last visit to Budleigh Salterton the River Otter had changed course so that the rocks and Otterton Ledges were easily accessible. We had a beautiful day and a very low spring tide. At the top of the shore the rocks were covered by large sheets of maerl, (*Lithothamnion calcareum*) which had been washed in from deeper water, and had been stabilised by mussel byssus threads. It was like walking on a crunchy carpet! In the *Fucus* zone there were lots of beautifully patterned and coloured *Nucella lapillus*, also three *Patella* spp, *Gibbula cineraria*, *G. umbilicalis* and *Osilinus lineatus*. On the lower shore under ledges and boulders we found bright red, and pink *Hinia incrustata* and *Calliostoma zizyphinum*. The excitement of the day was three beautiful sea slugs, *Aeolidia papillosa*, *Facelina coronata* in two colour forms and *Limacea clavigera* which we found with its coiled egg mass. Weed washing yielded *Rissoa guerinii*, and of course thousands of *R. parva* and *R. interrupta* and jewel like *Tricolia pullus*.

The next day we went to Dawlish Warren. After an extensive search we were only able to add a few extra species to the previous list. Most memorable was a large (30cm) pink mass that looked very like 'Dougal' in the Magic Roundabout. Jan Light identified it as eggs

continued on page 24

Opposite Top . *Bofilliella subarcuata* (Bofill, 1897). Adult and juvenile shells. The dotted line indicates the approximate point at which the juvenile shell breaks off. Length of the adult is 8.3mm; length of the first 5/2 whorls of the juvenile is 3.3mm.

Opposite Bottom right. *B. subarcuata* collected at Pont de Llierca, near Besalú, 2 June and sketched 20 June 1995 by S. Peter Dance.

Opposite Bottom left. Sketch of Pont de Llierca, Besalú site, by S. Peter Dance.

Left image. Map showing recorded sites of *B. subarcuata* in Catalonia.

Localities A to I are taken from M. Bech & G. Fernandez, "Nuevos datos sobre la distribución geográfica de algunos moluscos terrestres y de agua dulce de Cataluña." *Iberus* 4: 91-97, 1984. Locality J and K are the sites added by S. Peter Dance. See main text for details of all sites.

Truncatella subcylindrica at Chesil Beach

A. A. Wardhaugh

Recently, whilst on a family holiday in Dorset, I was able to visit Chesil Beach and was fortunate enough to find alive, active and in large numbers the nationally rare semi-marine snail *Truncatella subcylindrica*. As this snail is both difficult to find alive and not often featured in identification guides to Mollusca, I thought readers might be interested in the accompanying photographs. Figure 1 shows an active individual of shell length about 4 mm. When crawling, movement is somewhat reminiscent of a looper caterpillar; no doubt the origin of its English name, the Looping Snail. Figure 2 shows the location and habitat in which it was found. This is the landward side of Chesil Beach, a very long shingle bank that runs parallel to the Dorset coastline. The view is looking north-west along the edge of the lagoon which is known as the Fleet. This lagoon is brackish, being almost entirely cut off from the sea. The mainland is visible in the distance on the right. The snails were present in very large numbers beneath the Eel Grass (*Zostera* sp.) on the strand line and also beneath the Sea Purslane (*Halimone portulacoides*) in the left foreground, and beneath the edge of the Shrubby Seablite (*Suaeda maritima*) in the left middle distance. The habitat type is very much as described by Michael Kerney (*Atlas of the Land and Freshwater Molluscs of Britain and Ireland*, Harley Books, 1999, page 38). The precise location was west of Ferry Bridge, near Weymouth, grid reference SY66034. 7626. Date: 12th July 2004.

The only other snail species found in association with *T. subcylindrica* was *Ovatella myosotis*.



Cochlodina at Five Acre Grove David Long

Five Acre Grove (SO 791043), a Gloucestershire Wildlife Trust reserve is a small mixed deciduous wood on Lower Lias clay, and is in three blocks, two of which are separated by the main Bristol to Gloucester railway line. While visiting there on 15 May 2004 with the Gloucestershire Invertebrate Group I turned over a fallen log which had conspicuous fruit bodies of the fungus *Auricula judae*

and was fascinated to find a concentration of 13 *Cochlodina laminata* associated with the fruit bodies. About 10cm away also on the underside of the log was a specimen of *Helicigona lapicida*.

Cochlodina laminata is present in most deciduous woods in Gloucestershire. *Helicigona* is also in many woods, though it can be elusive and is mostly in limestone

areas, and it also turns up on drystone walls.

The other molluscs found were typical of woodland with wet places and a small pond, but did not include any ancient woodland indicator species.

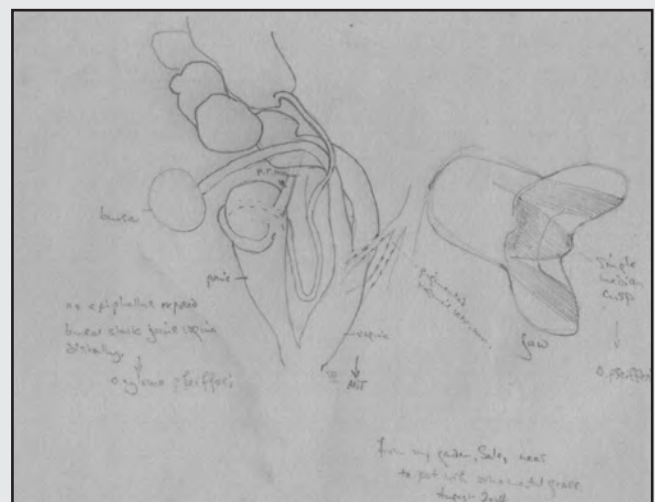
I have not seen such a gathering of *Cochlodina* before and would be interested to know if other readers have.

Coming soon to a garden centre near you? *Oxyloma pfeifferi*

I discovered a rather large *Oxyloma pfeifferi* in my garden in Sale in August, wandering over the path near to an ornamental grass I had bought recently from a garden centre in Manchester. A second smaller one was actually on the pot containing the grass. I had also seen the shell of one in a trolley in a large Staffordshire garden centre. Because of the size of the first specimen (shell 16.7 x 7.6 mm), I confirmed its identity by dissection of the distal genitalia and the jaw (See sketch). This specimen now inhabits the spirit world, but its partner lives free!

A recent report found that *O pfeifferi* was the commonest pest snail in hardy perennial nurseries in south and central England.

Bill Bailey





1

These images relate to specific articles within the magazine.

- 1. *B. subarcuata* collected at Pont de Llierca, Besalú, 2 June 1995 and painted by Chris Meechan at the National Museum of Wales, Cardiff. Page 4
- 2. *Truncatella subcylindrica* living animal. Page 6
- 3. *Truncatella* habitat on Chesil beach, Dorset. Page 6
- 4. *Cochlodina laminata* and *Helicigona lapicada* on Fungi at Five Acre Grove. (*Cochlodina laminata* on Fungi at Five Acre Grove. Image opposite). Page 6
- 5. *Oxyloma pfeifferi*. Page 6
- 6. Germaine Greer and bee. Page 9



2

Tony Wardhaugh



3

Tony Wardhaugh



4

D. Long



5

Bill Bailey



6

(c) Mark Kehoe, Sunday Express

Desert snails all at sea

S. Peter Dance



Deserts are among the least rewarding places in the world for molluscs — and for anyone interested in molluscs. In September 1951, having been drafted into the Royal Air Force, it was my misfortune to be posted to a radar unit near El Firdan, in the Suez Canal Zone, that strategically vital ribbon of oily water set in a barren desert. Arriving there, I resigned myself to the prospect of a long separation from the study of molluscs and their shells, to which study I was then an enthusiastic newcomer. Marooned in a non-conchological wasteland, I started collecting insects and studied the ways of scorpions and creatures similar to spiders but fiercer.

Within a week of my arrival at the camp, however, I had come across dozens of snail

shells on a patch of ground covered with low-growing, fleshy plants, the kind that spring up overnight in deserts after rain. They were about 2cm across, flattish, ordinary-looking snail shells, with an open umbilicus, their creamy beige colour variegated with deep chestnut-brown bands and blotches. During the ensuing days and months I collected hundreds of them which I stored in tobacco tins. In December 1952 I sent several to the Rev. Bert Biggs, a distinguished member of the Conchological Society, who had made a special study of desert snails. They may have been ordinary to look at, but collecting them had helped me overcome the monotony of daily life in an environment offering little more than sand, mosquitoes and guard duty.

In March 1954, two and a half years after I arrived in Egypt, I boarded a troopship for the journey home. The *Empire Windrush* was feeling its age when it chugged away, with almost 1700 souls on board, mostly servicemen and their families — and dozens of tobacco tins full of snail shells. At about 6.30 on the morning of 28 March, having sailed across most of the Mediterranean Sea, we were ordered to abandon ship about 35 miles off Algiers. The engine room had caught fire, smoke and flames engulfing the ship so rapidly that we barely had time to scramble into the lifeboats or to jump into the sea. I was among a number of survivors picked up by the *Mentor*, a Dutch ship, and taken to Algiers. From here the aircraft carrier *Triumph* transported the survivors to Gibraltar, thence by plane to safe, leafy, snail-friendly England. It was so good to be alive and home again that I did not mind losing everything I had accumulated during two and a half years active service overseas.

It was only some years later that I came to regret losing all those snail shells, for they represented a species new to science in 1951 which was described as *Eremina desertorum dancei* in 1959 by the kindly Bert Biggs. Fortunately, a friend of mine had taken a photo showing me collecting some of the first specimens I ever came across of the species now known as *Eremina dancei*, my very own desert snail. It is better than nothing. I do not know if hundreds of shells of Dance's Desert Snail still rattle around in their tobacco tins, a thousand feet down at the bottom of the sea, somewhere off Gibraltar, but I do know I am lucky not to be rattling around with them!



(Top) *Eremina dancei* Biggs, 1959. Three views of a paratype collected at El Firdan, Suez Canal Zone, Egypt, 6. xii. 1952. Drawing by S. Peter Dance.

(left) *Eremina dancei* aestivating on a shrub at El Firdan, Suez Canal Zone, Egypt. Drawing by Caroline Abrahams, from a photo by Robert Egby, 1952.

Is climate change driving recent range expansions in British trochid gastropods?

Nova Mieszkowska¹, Steve J. Hawkins^{1,2}, Phil Williamson^{3,4} & Mike A. Kendall⁵

1. Marine Biological Association of the U.K., 2. University of Southampton, 3. University of East Anglia, 4. National Environmental Research Council, 5. Plymouth Marine Laboratory.

The trochid gastropods *Osilinus lineatus* da Costa and *Gibbula umbilicalis* da Costa reach their northern geographical limits of distribution in the British Isles and Ireland. Analysis of data collected from a range of British sites between the 1970s and 1980s, coupled with resurveys from the same locations between 2002 and 2004 have shown that range extensions and synchronous increases in abundance have occurred in populations of these lusitanian species at locations close to the range edge in Britain during the current period of global warming. Two mechanisms that could explain these changes are an increase in reproductive success due to a lengthening of reproductive period and increased survival of new recruits as a consequence of climatic warming over the last 20 years.

Reproduction is a crucial function for the success of all populations and is the most sensitive of the life stages to temperature. Thermal stress will verge on the critical more frequently at geographical limits than in the centre of the range of an organism and hence by observing variations in the timing of the reproductive phase occurring between these locations, the effects of changes in temperature can be determined with increased confidence. Field and laboratory investigations on reproductive mechanisms and the potential links to increased sea and air temperatures have been undertaken on populations close to northern range edges populations in Britain, and on populations in France which are located closer to the centre of the range. The results have increased our understanding of the mechanistic links between changes in species range and abundance and climate change, which is essential in order to make quantitative forecasts of future distributional patterns. Once these processes and relationships are understood, common rocky intertidal species such as these can be proposed as indicator species of future climate change in Britain.

Contact – nova@mba.ac.uk

Conservation News

The launch of Buglife: The Invertebrate Conservation Trust

I wrote an article in *Mollusc World* (issue 1) describing the foundation of 'Buglife', The Invertebrate Conservation Trust. On 22 April 2004



Jan Light, Matt Shardlow, Martin Willing
Photo by Martin Senior

this organisation was officially launched at The London Wetland Centre. The launch of Buglife, the first organisation in Europe wholly dedicated to the conservation of invertebrates, was attended by representatives from a range of governmental organisations including English Nature together with most well known NGOs dedicated to invertebrate or more general conservation. The President, Dr. Jan Light together with the Conservation Officer Dr. Martin Willing, represented the Conchological Society. The launch was supported by speeches delivered by the academic Germaine Greer, TV presenter Nick Baker as well as leading scientist Sir Robert May.

Ecologist and conservation biologist Lord Robert May, current president of the Royal Society said, "our knowledge of insects and other invertebrates – the small things that arguably run the world – is not very secure. One recent report suggests rates of decline are significantly more severe for invertebrates than vertebrates". Lord May has long held the view that too much conservation is dominated by a kind of 'vertebrate chauvinism' that tends to focus disproportionately on animals with 'fur, feathers or fins'! Buglife wants to halt this decline and is working to raise awareness of the importance of Britain's invertebrates.

Speaking at the launch Germaine Greer said, "Our most important heritage is not man-made. It is the treasure house that we call biodiversity. The 'Improvement' of grassland and intensive agriculture has greatly reduced biodiversity all over England. Threatened species have found havens in neglected sites such as old quarries, flooded gravel pits, disused railway lines and old industrial sites. Unfettered development and tidying of these wildlife reservoirs threatens ecological sustainability".

Nick Baker said, "Bugs – the things we call creepy-crawlies – make up over 98% of all living animal species in Britain. The fact that we can let so many of them disappear before our very eyes just because they lack obvious charisma, fluff and wet watery eyes, is a real worry. They are critical to the well being of everything, including us and we have to make more of an effort to take care of them".

If you would like to learn more about Buglife and its work, projects and campaigns then visit the web site, www.buglife.org.uk.

Martin Willing

UK BAP Priority Species Review 2005:

Update on developments and an invitation to contribute your suggestions.

I wrote about the current UK BAP (Biodiversity Action Plan) Priority Species Review in an earlier edition of *Mollusc World* 4 (p. 10). The UK BAP process helps to coordinate and drive much conservation work at both national and local levels. Since 1995 a total of 436 UK action plans and about 150 local BAPs (both species and habitat) have been published. As it is recognised that knowledge about threatened species and the threats themselves change, then a full review of the BAP species and habitats and associated targets is required periodically. The UK Biodiversity Partnership (DEFRA) based will undertake a full review of these plans in 2005, ten years after the first ones were published. This work will be coordinated by the Biodiversity, Reporting and Information Group (BRIG) and will involve three strands:

1. a national reporting round integrating local and national information;
2. a review of targets set for BAP habitats and species;
3. a review of the BAP priority species and habitats lists.

To make sure that the conservation needs of invertebrates are adequately considered and represented in this BAP review process, Invertebrate Link (previously known as the Joint Committee for the Conservation of British Invertebrates – JCCBI) has established the *Invertebrate Link UK BAP Priority Species Review Working Group*. To assist in this immense task the group has contracted *Buglife – The Invertebrate Conservation Trust* to help coordinate the invertebrate input to the review. In August 2004 Buglife appointed Jamie Roberts on a temporary contract as Biodiversity Project Manager. Jamie will undertake this work by:

1. locating coordinators for particular groups of invertebrate taxa who will liaise with other interested persons in their field;
2. provide assistance to the coordinators;
3. gather the final recommendations and

4. to present the final suggestions to the Invertebrate Link working group in early 2005 (for submission to DEFRA).

The Conchological Society (and all other groups representing invertebrate groups) will need to return their review suggestions by late February 2005.

The criteria used to compile the original priority species list in 1995 were not ideally suited for the selection of some invertebrate species. As a result, a revised criteria list, together with associated guidelines, is being produced to accompany this review. Unfortunately they were not available in time to include with this article. I am therefore including the criteria used in the formulation of the first Priority Species list (HMSO, 1995a, 1995b).

Selection Criteria for Priority species (1995 Criteria)

- Threatened endemic and globally threatened species.
- Species where the UK has more than 25% of the world, or appropriate, biogeographical population.
- Species where the number or range has declined by more than 25% in the last 25 years.
- Species found in fewer than 15 ten km squares around the UK.
- Species for which the UK has international obligations or which are protected under UK legislation.

The Conchological Society is anxious to encourage interested (and hopefully informed!) Society members to forward their views/suggestions on the BAP molluscs. We would therefore, welcome any suggestions for changes (additions and/or removals) to the present Priority list. Please send your suggestions to the Conservation Officer (by **16th January 2004**) supported by clear, concise reasons that take account of the new

criteria (these can be viewed on the Conchological Society website or are available from the Conservation Officer via e-mail or hard copy). The Conservation and Recording Committee will review all contributions and submit a final report to Buglife on behalf of the Society. You are encouraged to submit all suggestions as early as possible, to ensure that if there are queries about the information supplied, the Conservation Officer has time to respond. The 14 current molluscan BAP Priority Species are:

<i>Anisus vorticulus</i>	The little whirlpool ram's-horn snail
<i>Segmentina nitida</i>	The shining ram's-horn snail
<i>Myxas glutinosa</i>	The glutinous snail
<i>Catinella arenaria</i>	The sandbowl snail
<i>Vertigo angustior</i>	The narrow-mouthed whorl snail
<i>Vertigo genesii</i>	A whorl snail
<i>Vertigo geyeri</i>	A whorl snail
<i>Vertigo moulinsiana</i>	Desmoulin's whorl snail
<i>Pseudanodonta complanata</i>	The depressed river mussel
<i>Pisidium tenuilineatum</i>	The fine-lined pea mussel
<i>Margaritifera margaritifera</i>	The pearl mussel
<i>Atrina fragilis</i>	The fan mussel
<i>Ostrea edulis</i>	The edible oyster
<i>Thyasira gouldi</i>	The northern hatchet shell

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Freshwater mollusc rearing in Georgia

Ian Killeen & Evelyn Moorkens

North America has a unique and highly diverse fauna of freshwater molluscs with approximately 945 taxa, of which 77 species are considered to be extinct (Bogan 1998). In the latest *Journal of Conchology Special Publication No. 3* (2004), Richard Neves gave a review of the current conservation situation of the fauna and activities underway to protect and restore the fauna. A significant portion of this fauna is recognised as being vulnerable or threatened. The US government has listed 70 species of mussel as endangered or threatened with a further 40 species as candidates for listing. The situation with the c. 660 species of gastropods is equally, if not more, serious, although only 15 species are federally protected. To address the urgent need to maintain and restore populations of protected mussels and snails, a raft of recovery activities has been initiated to prevent further extinctions through habitat protection and propagation (Neves 2004).

Whilst in the United States recently we were able to visit the field station of the Tennessee Aquarium Research Institute (TNARI) under the direction of Dr Paul Johnson. The station is located at a fish hatchery located in northwest Georgia close to the Tennessee border. Paul's work focuses principally on the species found in the Mobile River Basin which is completely separate from the Mississippi/Ohio/Tennessee drainage system. As a single river basin, the Mobile supported the highest diversity of freshwater molluscs known in the world with approximately 175 species of mussel and 181 species of gastropod. However, there have been serious declines and in the gastropods alone, 42 species have gone extinct. Combined with a further 8 species of mussels, the Mobile Basin is the site of the largest extinction event in United States history. Thus, recovery efforts targeting Mobile River Basin molluscs are one of the highest conservation priorities in the country today. The facility (which is currently being expanded) is used to culture both mussels and gastropods and also to provide life support for host fishes.

The facility holds over 25 species of mussels and since 2000 culture efforts have produced over 80,000 juvenile mussels (from 13 species) for release. They have capacity to produce over 50,000 per year if enough broodstock can be obtained (location of gravid females is a limiting factor due their great rarity or habitat inaccessibility). In addition to release of cultured juveniles, efforts have begun to focus on stream-side release of infected fish. TNARI has also been responsible for the development of artificial propagation and culture techniques for Mobile Basin gastropods. The initial target of this effort was rocksnails (genus *Leptoxis*) of the family Pleuroceridae. Of the 15 *Leptoxis* species that once inhabited the Mobile River Basin, 10 are now extinct, 3 are federally listed, 1 is a candidate for listing, and the remaining species has a high conservation priority. The project successfully developed culture techniques for *Leptoxis* species and was quickly expanded to determine culture techniques for other imperilled Pleuroceridae. Approximately 38,000 individuals of 4 freshwater gastropod species have been produced since 2002 and releases of all four just been completed.

The activities of TNARI don't just end there. The work also includes the determination of host fish species, growth and mortality studies, survey activities, and systematics studies.

This article gives a photographic tour of the TNARI facility which started with a tank of lake sturgeon *Acipenser fulvescens* (Fig. 5). We are indebted to Paul Johnson has his team for their generous hospitality and for providing us with so much invaluable information. The efforts of groups throughout the eastern US have shown that recovery efforts are possible. It has given us much food for thought for propagation of our own endangered pearl mussel.

References

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1. The Cohutta Field Station with Paul Johnson (L) and Ian Killeen (R)
2. Tanks used for collecting mussel glochidia from their host fish
3. Mussel holding tanks. Six tanks hold up to 30 species of unionid mussel. The tanks are equipped with gravels and are fed by a mixture of lake and spring water in varying proportions to obtain the required temperatures in each tank.
4. Outside tanks used for gastropod culture.



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5. **Lake sturgeon, *Acipenser fulvescens*.** A tank full of adults. TNARI are successfully breeding this declining species and releasing them back to the Tennessee River system.

6. **Triangular kidneyshell, *Ptychobranthus greenii*.** Federally listed species, Mobile River Basin endemic. TNARI have worked on the fish host for the species as well as having produced over 300 juveniles.

7. **Altamaha spiny mussel, *Elliptio spinosa*.** Altamaha River Basin Endemic - Candidate for federal listing as Endangered. Less than 30 individuals have been located in the last 3 years. TNARI have completed preliminary work on determining the host fish for this species.

8. **Giant floater, *Pyganodon grandis*.** A common and widespread species in the eastern USA and SE Canada. Lives in slow-flowing rivers, lakes and ponds and can grow to 140mm. TNARI are carrying out growth and mortality studies.

9. **Georgia Elephantear, *Elliptio dariensis*** (1 specimen) and the **Altamaha Spike, *Elliptio shepardiana*** (2 specimens). Both species are Altamaha River Basin Endemics, and both are currently stable in the lower Ocmulgee and Altamaha Rivers.

10. Holding tank with several species of unionid.

11. **Plicate rocksnail, *Leptoxis plicata*.** Federally Endangered species restricted to 22 miles of the Black Warrior River, Alabama. It took Paul 3 years to get the flow-rate, temperature and breeding cycle worked out. Since 2002, over 27, 000 have been produced and released back to their native river.

12. **Spiny riversnail, *Io fluviatilis*.** The largest gastropod in the USA had been extirpated from much of the Tennessee River system for c. 40 years but survived in 3 tributaries. Breeding success has been achieved (working best with very large specimens) and nearly 6000 have been produced. It has been reintroduced to 4 rivers formerly inhabited by the species. Paul has just informed us that he released 4000 individuals on 3rd November 2004!

13. **Pistolgrip, *Quadrula verrucosa*.** Mississippi River drainage east to Mobile River Basin - Stable.

14. **Heavy Pigtoe, *Pleurobema taitianum*.** Federally Endangered. Alabama River Endemic - limited to a short section of the Alabama River.



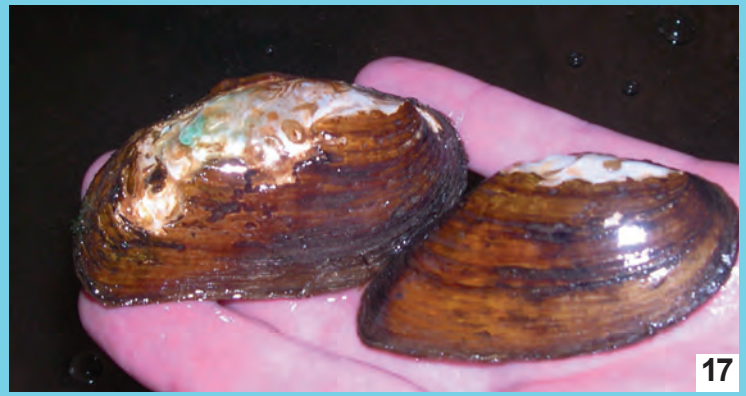
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15. Black sandshell, *Ligumia recta*. - Species of Concern - Extirpated from the MRB, but still occurs throughout the Mississippi River Basin.

16. Alabama moccasinshell, *Medionidus acutissimus*. Federally Threatened - Mobile River Basin endemic. The species is limited to a single location in the Alabama River drainage and less than 7 localities range-wide.

17. Alabama Spike, *Elliptio arca*. Mobile River Basin Endemic. Threatened - less than 8 populations left in the entire MRB.

18. Alabama Rainbow, *Villosa nebulosa*. Mobile River Basin (MRB) Endemic. Species of Concern - limited to about 20 sites in the MRB. TNARI have cultured and released over 9,000 of those animals.



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19. Coosa Fiveridge, *Amblema elliottii*. Alabama River Basin Endemic Species of Concern - limited to the Coosa and Cahaba River basins.



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20. Southern toesplitter, *Lasmigona etowaensis*.

Threatened. This small stream species is now restricted to 11 sites in the Upper Coosa River Basin. TNARI have cultured over 21,000 of these for release.

All photo copyright Evelyn Moorkens

Phenacolimax hunted unsuccessfully in Worcestershire

Ron Boyce

The semislug *Phenacolimax major* appears to be under-recorded in the UK. So far the furthest north it has been found is in square SO69 in NE Herefordshire (Alexander 2000).

An easily accessible and very diverse site not far away is Hunthouse Wood in square SO77. This wood was visited briefly in June 2003 and seemed promising for further study, so a field meeting was held there on 27 March 2004.

Hunthouse Wood forms part of the steep-sided Dumbleton Dingle. Most of the area is ancient woodland consisting of oak, ash, wych elm, birch, wild cherry, rowan and both large-leaved and small-leaved lime. However, parts of the site were drift-mined for coal until the 1940s, and historic wagonways and winding equipment can still be seen.

An old hazel coppice not far into the wood at SO704702 contained *Vitrina pellucida*, *Cepaea hortensis*, *Trichia hispida*, *Deroceras reticulatum*, *Discus rotundatus*, *Aegopinella pura*, *Oxychilus alliarius*, *Arion subfuscus*, *Oxychilus helveticus*, *Vitrea contracta*, *Vitrea crystallina* and *Arion intermedius*. The leaf litter layer here was damp after recent rain, but the soil underneath was completely dry as a result of the unusually dry winter.

The second area examined at SO705702 was further down the slope near the Dumbleton brook where there was a small-leaved lime tree which had been drilled so full of holes by woodpeckers that one had the impression that the birds had been extracting the rising sap from the tree rather than looking for insects. The ground flora contained golden saxifrage *Chrysosplenium oppositifolium*, the sedge *Carex pendula* and hartstongue fern *Asplenium scolopendrium*. The species found were: *Macrogastra rolphii*, *Clausilia bidentata*, *Cochlodina laminata*, *Columella edentula*, *Perforatella subrufescens*, *Euconulus fulvus*, *Oxychilus cellarius*, *Cepaea nemoralis*, *Trichia hispida*, *Carychium tridentatum*, *Vitrea crystallina*, *Arion distinctus*, *Oxychilus alliarius* and *Limax maximus*. A leaf litter sample from this site also contained *Acanthinula aculeata*, *Columella aspera*, *Acicula fusca*, *Aegopinella nitidula* and *Discus rotundatus*.

An area not far away near a bridge over the brook with a lot of wild garlic *Alium ursinum* contained *Arion distinctus*, *Oxychilus helveticus*, *Cochlodina laminata*, *Vitrea contracta*, *Vitrina pellucida*, *Macrogastra rolphii*, *Euconulus fulvus*, *Carychium tridentatum*, *Trichia hispida*, *Discus rotundatus*, *Vitrea crystallina*, *Aegopinella nitidula*, *Deroceras reticulatum*, *Clausilia bidentata*, *Cepaea hortensis*, *Arion ater agg.*, *Perforatella subrufescens* and *Trichia hispida*. There were pieces of coal in the stream near this point. A careful search along the stream banks here failed to reveal our target animal although the area closely resembled other sites where it has been found.

The last area of the wood to be examined was a waterlogged site at SO704700 where the ground vegetation was mostly *Carex pendula*, *Mentha aquatica* and *Equisetum telmateia*. This was

the most productive location of the day and contained both adult and juvenile *Macrogastra rolphii*, *Arion intermedius*, *Euconulus fulvus*, *Aegopinella nitidula*, *Oxychilus helveticus*, *Clausilia bidentata*, *Cepaea hortensis*, *Cochlicopa lubricella*, *Aegopinella pura*, *Vitrea crystallina*, *Columella edentula*, *Perforatella subrufescens*, *Nesovitrea hammonis*, *Arianta arbustorum*, *Vitrina pellucida*, *Discus rotundatus*, *Carychium tridentatum*, *Cochlodina laminata*, *Trichia hispida*, *Carychium minimum* and juvenile *Vertigo substriata*. A sample of leaf litter from this site added *Acanthinula aculeata*, *Punctum pygmaeum*, *Euconulus alderi*, juvenile *Acicula fusca* and *Vitrina pellucida* to the list. Regrettably, *Phenacolimax major* still remained elusive.

Thanks are due to Worcestershire Wildlife trust for giving us permission to visit this site.

References:

Alexander, K 2001. Herefordshire weekend 10-11 June 2000. *Conchologists' Newsletter* 9: 459-462.



1. Harry Green
2. David Long
3. Shells from leaf litter sample



All photos by Rosemary Hill

Conchological Society & Porcupine Field Meeting, 5 May 2004

1. Shore work by Lin Baldock

A field meeting combined with the Porcupine Marine Natural History Society was held to visit sites along the Dorset coast in May 2004: Conchological Society members greatly outnumbered dilatory Porcupines.

The first site visited was to the shore at Osmington Mills (Grid Ref: SY735817) on a somewhat inclement day. This site had a variety of habitats: rocky ledges and deep intertidal pools, boulders on rock and gravel, and a freshwater stream runs across the shore. An unremarkable list of marine molluscs was made.

Sites visited on subsequent days were:

- **Peveril Point in Swanage.** This is a boulder beach with low rock ledges and deep intertidal pools. Strong currents run across the ledges at high tide (Grid Ref SZ042787).
- **Chapman's Pool.** This site was visited in the morning with the hope of finding *Osilinus lineatus*, last recorded here by John Hawthorne in 1962. The beach has varied habitats: Low flat ledges, in places interspersed with huge boulders. The whole area is subject to rapid cliff erosion and is therefore often rather muddy. Jan Light instigated a search for *Paludinella littorina* and the group did find *Ovatella myosotis*, a good indicator species for *Paludinella*, in likely looking habitat among limestone boulders embedded in silty, gravely sediment around high water mark. However, neither *P. littorina* nor *O. lineatus* made an appearance. (Grid Ref: SY956767)
- **Lulworth Cove.** The low water at Lulworth Cove was caught in the early afternoon. Again Jan Light made off to a shallow cave searching for *P. littorina*, but with no success. The other mollusc records produced nothing unusual. (Grid Ref: 5Y824798)
- **Golden Cap.** An isolated stretch of rocky shore (huge limestone boulders on flat mudstone bedrock with shallow intertidal pools) on a predominantly

pebble/shingle coast provides one of the most easterly vibrant populations of *Osilinus lineatus* in Dorset. *Barnea parva* was an interesting find in the intertidal mudstone.

- **The West Fleet.** A brief visit was made to the west Fleet near Langton Herring to collect examples of several lagoonal species: *Cerastoderma glaucum*, *Rissoa membranacea* and *Hydrobia* species. (Grid Ref: SY608813).

A dredging trip was arranged from Lyme Regis using 'Miss Pattie', a local fishing boat skippered by John Walker. A Day grab generously loaned by Fugro GEOS was used to collect samples of muddy, sandy sediment and a pipe dredge borrowed from Dr Ken Collins based at the School of Ocean and Earth Science at Southampton University allowed us to collect coarser sediments of maerl and pebbles. The CS had the boat for the Saturday which proved rather rough with a strong northwesterly wind only allowing us to work close inshore and making the handling of the grab and dredge hard and hazardous work. A classic site for *Paludinella* at Beer Head in Devon was viewed from a distance while we had lunch on the boat in the welcome calm of Beer Roads.

Julia Nunn, wearing her Porcupine hat, also came out on the boat on the Sunday, a mirror calm day after the near gale of the day before, and collected sub-tidal samples for their mollusc fauna. Please may I remind all participants that I really do want your records from your visit, and should you have no objection, I will pass all records on to the appropriate wildlife trust: Dorset or Devon.

2. Dredging out of Lyme Regis in May 2004 by Jan Light and Celia Pain

"Northwesterly 4 to 5, locally 6 2 to 3 later

As a shipping forecast for a group of 8 conchologists with dredging in mind, this prognosis was hardly appealing. Quite apart from the comfort of members of the

dredging group, the handling of heavy equipment in rocky conditions requires skill and great care. The skipper of 'Miss Pattie', John Walker, assured us that we would be able to work in the forecast conditions, albeit staying inshore. He could give no assurances, however, on the performance of our sea legs! So in wind and intermittent drizzle we steamed out of Lyme Regis harbour towards our first sampling station. Our dredging equipment had been borrowed by Lin Baldock and consisted of a Day Grab borrowed from Fugro GEOS and a pipe dredge loaned by Dr Ken Collins of the School of Ocean and Earth Science, Southampton University. The Day Grab has a simply designed frame to keep the equipment level on the sea bed and two triggers to operate the release of the collecting buckets. A pipe dredge is simply a length of robust metal pipe with a sealed end, which is hauled along the seabed and fills with sediment as it is towed. Both pieces of equipment were used although at a number of stations the rocky seabed failed to yield a loose sediment sample, and in the end the pipe dredge showed itself to be more productive.

Thirteen stations were sampled, 4 by grab and 9 by dredge. Whilst some yielded several litres of sediment, others yielded only a few rocks and cobbles. Each sample was divided between the group, and smaller samples were kept as a unit and allotted amongst the participants. Some large rocks with epifauna were scraped and brushed in buckets of seawater in order to remove the colonising epifauna, including organisms which were cemented. These residues were also set aside in containers to take ashore. No sorting took place on board 'Miss Pattie' although once the sediment samples were emptied into large plastic boxes they were briefly examined for evidence of macrofauna, of which there was very little. The gravels were all very homogenous consisting mainly of dead shell, fragments of coralline algae known as maerl, all stained orange-brown and lithogenics. There was hardly any

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Digital photography of molluscs

Ben Rowson & James Turner *National Museums & Galleries of Wales (NMGW)*

Photographs of molluscs and their shells are increasingly in demand nowadays, especially for identification purposes. Digital technology allows high-quality images to be produced and circulated in great quantity, and desktop editing and publishing software allows them to be assembled easily into usable guides or reference plates. Here, in response to some requests, we provide some tips on photographing molluscs and their shells, aimed at the beginning photographer. We welcome any suggestions or queries from readers.

Why digital?

Digital still and video cameras have improved enormously in recent years, and one with an effective macro setting (necessary for most molluscs) should be available for £100-£600. Digital cameras can store many hundreds of images and play them back instantaneously. They can be transferred quickly to computer and printed directly, or printed at a developer's. Although books and courses on digital photography are very accessible now, most of the principles are those of conventional photography.

Briefly, when buying a digital camera, the resolution (megapixel rating) and a macro setting are probably most important. A low megapixel rating will produce pixellated (blocky) images. Those with manual settings (F-stop, light levels etc.) are good for experienced photographers but we have found the automatic settings very reliable on several cameras. Also, consider what kind of memory cards and batteries the camera uses, in case of incompatibility or power emergencies. If you want to add a macro or other lens (see below) ask about compatibility. All sorts of extras are also available, e.g. the ability to record up to a few minutes of digital video (ideal for that unexpected *Architeuthis* stranding).

Macro photography

In general the term "macro photography" refers to photography used to create reproductions greater than the life-size of the subject. This means working with magnification ratios from 1:1 (life-size) to 10:1 (where the image is 10x larger than the subject), allowing for a much bigger image showing more detail. By conventional photography techniques this is achieved through the use of specialised macro lenses, bellows and extension tubes which can be attached to the body of an SLR camera (as used to produce Fig. 1). Unless you have a digital SLR that allows for interchangeable lenses these options will be unavailable, but many compact digital cameras have a macro or super macro setting that can

produce very good macro images (Fig. 2). Models are available with a focal depth as low as 20mm. The size limit of the subject is set by the resolution (megapixel rating) of the camera (Figs. 3 & 4). Some camera models allow close-up attachment lenses to be added to the front of the lens. These work very much like having a magnifying lens held in front of the camera - a cheap way of entering the world of macro photography.

Microscope photography

If you are lucky enough to have access to a stereo or compound microscope, you can capture digital images down one of the eyepiece tubes. Adaptors for a number of digital cameras (e.g. Nikon's Coolpix series) are available for around £50-£200, but remember it must fit both microscope and camera. A good dissecting microscope will act as a macro lens for objects measuring from about 0.5 to 50mm.

A readily-appreciated problem with photography at high magnifications is that there is a limited depth of field (the amount of the subject in focus at any particular setting). It may be possible to adjust the camera aperture or the microscope iris to increase the depth of field, but this decreases the amount of light entering the lens. In the last few years an alternative has become available: to use specialised imaging software that captures multiple images of a subject at different focal planes and compiles them into one image with no loss of depth of field. The results can be effective and sometimes impressive (compare figs. 5 and 6). At NMGW we do this with Syncrosopy's AutoMontage software on images captured using a JVC digital video camera. The system is constrained only by the maximum magnification of the microscope and the resolution of the camera. However, the setup and software are expensive (in the £1000s). A best-value alternative is Deep Focus, produced by Stuart Ball and soon to be available for PCs from <http://www.dipteristsforum.org.uk/>. Like

AutoMontage this will operate on images captured with a digital still camera, or even scanned prints.

Handling small shells

Positioning small and fragile shells for imaging can be tricky. A recent discussion on "Conchology-UK" (see www.conchsoc.org) allowed contributors to share their tips on handling the smallest shells (say, from 5 to 0.5mm in size).

For moving small shells while minimising the risk of damage or "pinging" into corners, we recommend a paintbrush and/or soft-touch dissection forceps. A fine model-makers brush, perhaps with some of the bristles trimmed, can be used dry or slightly moistened and is useful in extracting small shells from water or spirit. Cactus spines, cat's whiskers and human eyelashes mounted on handles are more esoteric versions. Soft-touch ("storkbill") forceps are available for around £8 from www.watdon.com. An anti-static mat or wrist straps (available at electricians' suppliers) may be useful, especially if your shells are in plastic containers.

For holding small shells stable in the right orientation we recommend a small container of tiny glass beads or shot (as used in Figs. 5 & 6). Beads are available from art and craft stores in various colours, or they can be dyed black with Indian ink. Blu-tack, plasticine or paraffin wax (as used in dissecting dishes) can also be used to hold shells in place, but the first two (particularly if they are too old or too warm) can be sticky enough to remove the periostracum or break the shell. As one Conch-L contributor advises, exhibition tape (less sticky than sellotape) can be bent into a bridge on which to mount lightweight shells.

Lighting and shadows

Getting the lighting right is crucial. The sculpture, colour and form of the subject can all be brought out using careful lighting (e.g. Fig. 7). For microscope and some macro photography at NMGW we use

poseable fibre optic light boxes. A ring light can be useful in reducing glare but can add an unwanted ring-shaped highlight to shiny shells (e.g. cowries). The light from bright spotlights can be diffused with translucent material such as packing fleece, polystyrene cups or Tupperware. However, interior lights of most kinds have a higher "colour temperature" than daylight, tending towards reds, oranges, and yellows. Digital cameras may have a "white balance" setting in which the colour temperature is calibrated against a white surface (e.g. paper) under the set-up conditions. Fluorescent lighting may be less of a problem; natural daylight is great, though not available over the counter. The web page <http://cowrys.org/research/colors.htm> gives some examples and details on shells photographed under different lighting conditions.

Strong shadows can be countered using extra light sources or by arranging mirrors at various angles (this can even be done outdoors). Positioning a specimen on a clean, clear surface such as a glass microscope slide raised a centimetre or two above a background is often enough to displace its shadow out of the picture frame. Reflections from the glass are usually too faint to present a problem. This method is also good for evening out a coloured surface used as background (e.g. the back of a book).

Backgrounds

The background against which shells are photographed ought to contrast with the shell and have an even, matt finish – velvet is a good choice. Black has long been popular for light-coloured shells (and shows no shadows). Blue, seldom present in mollusc shells, is good for all-purpose contrast, but colours other than black or white may add a "colour cast" of their own to the shadowed parts of shells. Many shell books use a variety of backgrounds to suit different specimens. One thing to bear in mind with shells that are translucent to some extent (including so many small ones) is that the colour in the photographic background ought to be the same as, or complementary to, the final presentation background. If using beads to position the shell, note that they too can show through the shell, an effect which can take a lot of trickery to remove.

Desktop scanners

Flatbed scanners, commonly bundled with PC setups, can produce good results, especially with flat and/or medium-sized shells. Among their advantages are bright, even lighting, large surface area, and high resolution, meaning that images can be magnified to a certain extent on screen. Plant specimens are routinely photographed with scanners and excellent results have been obtained from living dragonflies cooled in a fridge (<http://www.dragonflies.org/>). Living molluscs or shells can be photographed (upside-down of course) using a slim polystyrene frame to keep the light out of the edges of the scanner lid.

Image processing

You may want to edit digital images before printing the images or placing them on the web. If available, graphics software such as Adobe Photoshop, its stripped-down cousin Photoshop Elements, or JASC PaintShop Pro are ideal for tidying up pictures or removing unwanted backgrounds (e.g. Fig. 7). A large number of specimens (or different views of the same specimen) are easily compiled as adjustable layers on a coloured background, map, etc. Amongst the numerous other features of such software are the options to control brightness, contrast, colour balance, retouching and various artistic effects.

Printing and disseminating images

Most desktop printers can produce very good glossy printouts from digital images; the cost of speciality "photo paper" and ink cartridges being the only downsides. Photography shops will print digital camera images from memory cards.

Small images can be circulated as email attachments, though list server email services such as "Conchology-UK", "CONCH-L" and "Mollia" do not usually permit them for reasons of space. Contributors to these electronic fora often include web addresses to their own websites where pictures can be viewed by those interested. Many digital cameras come with software that in some cases will publish images on a website almost automatically.

Acknowledgements

Thanks to all those who contributed tips on handling and photographing shells to the Conchology-UK forum.

Uninvited Guests by Liz Biles

A steady trickle of reports of *Malacolimax tenellus* has started to flow and thanks are extended to all who have taken the trouble to email or write. What appeared to be the most startling discovery was made on the morning after a party to commemorate a 'significant' birthday which was held here in August. Burton is on the edge of chalk downland, not far from the National Trust property of Stourhead. The field in which the party was held is bounded on two sides by very old, but not ancient, hedgerows. A large gathering of guests congregated in the marquee set up in the field behind the house. Many kind friends had obviously been raiding garden centres. These gifts were all put by the hedge where they would not be trampled. It was a good party and we waved farewell to the last of the guests at approximately 3 pm the following day!

During the course of the tidying up I took trays that had gifts on them to give them a wipe. The top tray was a rather nice one, decorated with a pattern of wild flowers. "How strange," I thought, "I haven't noticed that slug before!" Not really surprising as it had not been there before. It was only about 6 mm long, but it was a pale yellow and ... wait, with lilac tentacles ... could it be? Surely not! Where was my lens? Not to worry, help was at hand. Another of the lingering guests, an old schoolfriend, assured me that her husband, who deals in antique watches and clocks, would be bound to have his eyeglass with him, and so he did. The pneumostome was definitely rear of the mantle mid point. If this was *Malacolimax tenellus* then how had it got there?

I decided that it was worth keeping the uninvited guest captive for a few days and 'growing it on' (I'm a gardener!) to see if the colour deepened and if identification could definitively be made. So, for the best part of a week the slug was detained amongst some leaf litter and dined on Waitrose mushrooms, possibly *Agaricus campestris*. I made a fatal mistake when I brought home a *Russula nigricans* from nearby woodland. It was not in prime condition and I am sorry to say that the maggots that hatched out of the toadstool devoured my guest, commencing with the head. So, identification of the slug was never fully established. I have since spent plenty of time scouring the field and hedgerow. This is partly because a pearl bracelet was lost that evening. I am not sure which I should be most pleased to find.

A report from Gordon Simpson up in Northumberland though suggests that *M. tenellus* is something of a party animal after all, as the bag of beer bottles and cans that he found in Slaley Forest and took home to rinse and recycle contained one specimen slurping the last drops. When next you are invited to take a slug of beer, do have a good look first

And finally Jean-Michel Trendel sent a report of *Malacolimax tenellus* seen in birch woods in the northern Vosges mountains. He had spotted our article in a copy of 'Field Mycologist'. Totally beyond the scope of this project but the photographs are quite stunning!



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6



7



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Images 1 - 7 relate to Digital photography of molluscs. Pages 16 -17

1. (Fig. 1.) *Helix aspersa* Müll. (60mm) (field) Nikon F601.105mm Nikkor Micro lens; 1/8 sec f.16; Fujichrome Sensia 200 Photographed with a SLR camera using colour slide film. The resolution of the original is very high.

2. (Fig. 2.) *Cepaea nemoralis* (L.) (40mm) (field) Canon A80 Powershot 4.0 Mpixel digital; built-in macro setting and auto exposure In many ways this digital photograph is equivalent in quality to Fig.1; the resolution of the original is slightly less high.

3 & 4. (Fig. 3-4) *Lauria cylindracea* (da Costa) (4mm) (field) Using the same camera and settings as Fig. 2, this represents the approximate lower size limit for the built-in macro setting. Digital enlargement of this small image results in some pixellation owing to the limited resolution.

5 & 6. (Fig. 5-6.) *Spermodesa lamellata* (Jeff.) (2.5mm) (studio) JVC digital camera (video) via Leica MZ8 dissecting microscope This small shell is positioned using black glass beads. Note the limited depth of field in Fig. 5 (only the front of the shell is in focus); the image in Fig. 6 has been compiled from several such images by Syncroscopy AutoMontage.

7. (Fig. 7.) *Tridacna squamosa* Lmk. (150mm) (studio) Photographed with a digital camera under studio conditions. The image has been processed using Adobe Photoshop to remove any unwanted background detail.

Figs. copyright: 1, J. Turner; 2-4, B. Rowson; 5-7, NMGW.



A



B



C



C

Images A - F relate to The Cowry Shell as money article.

Photos by Jan Light



E



F



D

The cowry shell as money

By Colin Narbeth (Banknote Specialist), 20 Cecil Court, Leicester Square, WC2N 4HE. **email:** Colin.Narbeth@btinternet.com

The use of cowry shells as a medium of exchange goes back to the dawn of Chinese civilization. One of the earliest written references is that of an historian, Ssu-ma Ch'ien, of c.145-86 BC. He mentions cowries as being used as money in the Shang and Chou periods. In the Shang Dynasty the character PEI was part of the Chinese language. The earliest form, the archaic script which developed into Seal Script, was merely a rough picture of the ventral side of a cowry. It was so important that PEI was adopted as one of the 214 radicals — the foundations characters of the language. Today, 84 Chinese characters have PEI as the main foundation. Finds of cowry shells, sometimes in very large quantities, have come to light in tomb excavations and the opinion of most Chinese archaeologists today is that they were there as money (Figure A: Ancient cowries as currency from the Shang and Chou periods, c.1500BC).

In the Shang dynasty (1766 - 112BC) literature there is a reference in the Shang-shu - Book of Documents - to the King P'an-keng reproaching his ministers for coveting cowries and jade instead of doing their duties. He said referring to cowries and jade, "You shall not accumulate the huo and the pao and make profits for your own use." Huo means "money" and pao means "treasure". We find references to cowries on oracle bones and bronze inscriptions which clearly indicate the high value placed on them: "upon his return the king rewarded him with one p'eng of the cowries which were captured in the expeditions against Yung." That payment was made in cowries is clearly shown in the inscription on a bronze vessel of the Chou period: "Lord of Chuy, Yuan, had this precious vessel made. He used fourteen p'eng of cowries". The shells used were *Cypraea moneta* and *Cypraea annulus* - the latter has a yellow ring round the dorsal area. (Figure B: Recent specimens of *C. moneta* [right hand pair]) and *C. annulus* [left hand pair]). Both species live in large numbers in the Indian Ocean and are also found in other parts of the world.

It is not difficult to see why cowries were chosen as a medium of exchange. Money needs to be portable, durable, divisible and recognizable, and most important, difficult to counterfeit. Precious metals have fulfilled these criteria better than anything else - except perhaps the humble cowry shell which fulfilled those criteria with the added advantages that the cowry could be used for decoration, charms, divination and games. Cowries are still used today to represent pawns in the game of chess in certain countries.

Scarcity of cowries caused the Chinese to make imitations of them in wood, stone, jade, other semi-precious stones, bone, bronze, and even gold and silver (Figure C: Examples of imitation cowries in jade, gold and stone. Note that a hole has been made in the stone example for authenticity). This led to a major coinage in imitation of the cowry - the 1 Pi Ch'ien (Ant Nose money) of the Sung dynasty (Figure D: Ant Nose Coin). The name originates from the characters' resemblances to an ant and a human nose. These coins were used at a burial, being inserted inside the nose of the deceased to keep out the ants.

These coins have also been called Kuei-lien ch'ien meaning Ghost Face money, again from the appearance of the character (Figure E: Rare Ghost Face coin from the Chou Dynasty). The place of these imitation cowries in Chinese culture has been marked by the issue of postage stamps (Figure F: Postage stamps depicting Ant Nose Money and replica cowries).

Some authorities claim that cowries were used as a medium of exchange as early as 2000BC. We know from numismatists that in 335BC cowries were forbidden as they conflicted with copper coins. Marco Polo recorded that cowries had been brought from India to the Yunnan Province of China. European traders called them 'porcelains' (little pigs). One major problem was that as *Cypraea moneta* and *C. annulus* were considered to be of equal value, very large quantities were needed for certain transactions. This led, in some cases, to larger species being used to represent higher values, such as the Tiger Cowry, *Cypraea tigris* and the Turtle Cowry, *Cypraea testudinaria*. Ironically, although cowries were banned in 335 BC, a few centuries later it was the debased coinage which was banned, and cowries were restored as the official coinage of China. Up to the 14th century taxes could be paid in cowries.

The Maldives Islands were to become the main source of supply of cowries which were shipped to India and from there across the vast regions of China, gaining value as they distanced themselves from the seas. They had the advantage over metal coins that it was almost impossible to forge them - and even then the cost of doing so would outweigh the value of the shell! Even so, the early use of cowries showed astounding profits. Arab traders would buy the best part of a million of them for 1 gold dinar from the Maldives. When they got them to Nigeria they resell them at 1 gold dinar for a 1000. At one time it took only two cowries to buy a woman (Uganda) but as traders made the shells more accessible it was not long before the price of a woman rose to 10,000. Aware of the enormous profits to be made from the sale of cowries, the French and English became involved in the business - exchanging cowries for slaves who were then sold to America.

From the Arab merchant Sulayman (851 AD) we learn that at one time, in the 9th century, the Maldives had a very beautiful and wealthy Queen. Having used up her Treasury of cowries she resorted to sending the Maldivian maidens to collect large palm leaves from the coco-nut trees. These were then laid in the shallow water. Soon thousands of cowries would crawl onto the leaves - to be suddenly pulled out of the water and left high and dry to die before being sent to replenish the Queen's Treasury. This account was confirmed by Masudi of Baghdad, famous Arab historian of the 10 century.

In the 17th century Pyrard de Laval was wrecked on the Maldivian islands and stayed there for two years. He wrote: "They called them (cowries) Boly and export to all parts an infinite quantity, in such wise that in one year I have seen 30 or 40 whole ships loaded with them without other cargo. All go to Bengal for there only is there a demand for a large quantity at

continued from page 15

evidence of living maerl although the skipper, a scuba diver, had attempted to site us over known beds of living coralline algae. As the day progressed, the weather deteriorated and far from easing to a sea state of 2 to 3, our skipper informed us at one point that we were working in conditions approaching force 7. Nevertheless it is to everyone's credit, or perhaps good fortune, that there were no casualties to seasickness! Some members of the dredging party still have their sorting to do, so analysis of the sediments is 'in progress', however two of us have sorted enough samples to recognise a consistent picture of the micro-malacofauna of these gravels, see table below. The trip was memorable for the way in which the group (Lin Baldock, Ron Boyce, Rosemary Hill, John Llewellyn Jones, Jan Light, Julia Nunn, Celia Pain, Steve Wilkinson) persisted with the difficult conditions of a pitching boat, and worked cooperatively, distributing samples or parts of samples amongst participants and setting aside some material for those who had not risked the sea conditions. Nearly all the material the sampling equipment delivered to the boat was taken, bagged and labelled; only the mud haul was sub-sampled and the residue shovelled back overboard. This characterises the Society's responsible and thorough approach to dredging because the opportunity to obtain offshore seabed samples is infrequent, and has resulted in some interesting records for micro-species.

We have combined our records to give a preliminary profile of the assemblage of smaller mollusc species living in the gravels. Nearly all these were living in at least some of the gravel samples sorted so far, but only shells of *Tornus subcarinatus* have been found:

Emarginula rosea
Odostomia unidentata
Dikoleps cutleriana
Brachystomia eulimoides
Dikoleps pusilla
 (formerly *Skenea nitens*)
Brachystomia scalaris
Skenea serpuloides

Chrysallida decussata
Obtusella intersecta
Chrysallida indistincta
Pusillina inconspicua
Partulida spiralis
Caecum glabrum
Ondina divisa
Caecum imperforatum
Modiolarca tumida
Tornus subcarinatus
Kellia suborbicularis
Mangelia coarctata
Semieicycina nitida
Raphitoma linearis
Mysella bidentata
Odostomia plicata
Epilepton clarkiae
Odostomia turrita
Goodallia triangularis

Whilst none of the species in the list above is uncommon, several (*Dikoleps cutleriana*, *D. pusilla*, *Obtusella intersecta*, *Caecum* spp. *Chrysallida* spp., *Ondina divisa*, *Epilepton clarkiae*) are more usually recorded as empty shells from samples of beached shellsand. The nomenclature follows the Mollusca list in the Ulster Museum and Marine Conservation Society Marine Directory which is the dictionary upon which the marine mollusc database in the Recorder 2002 computer programme is based. (The Society's marine mollusc database has now been converted to Recorder 2002 from RECORDIT). As other participants complete the analysis and identification of their samples, their records will be checked for incorporation into the lists for the dredging trip which will then be added, together with the shore records obtained during the field meeting, to the Society's computer database and those of the Dorset and Devon Wildlife Trusts.





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1. Chapman's Pool, Dorset
2. Searching the crevice fauna habitat on the upper shore at Chapman's Pool
3. Falling tide at Chapman's Pool
4. Chalk caves supporting *Paludinea littorina*
5. Finding *Barnea parva* at Golden Cap, Dorset
6. Searching the crevice fauna habitat on the upper shore at Chapman's Pool
7. Discussing the dredged samples
8. Scraping epifauna off the dredged cobbles
9. Steve Wilkinson and Lin Baldock guiding the grab

Photos were taken by Ron Boyce, Rosemary Hill and Lin Baldock

The Cowry shell as money continued

high prices. The people of Bengal use them for ordinary money although they have gold and silver and plenty of other metals; and, what is more strange, kings and great lords have houses built expressly to store these shells and treat them as part of their treasure."

Another 17th century writer, Barbot, the Agent-general of the Royal Company of Africa at Paris gives an interesting description of the cowry. "The Boejies or Cauris, which the French call Bouges, are small milk-white shells commonly as big as small olives and are produced and gathered among the shoals and rocks of the Maldivy (sic) islands. These Cauris are of many different sizes, the smallest hardly larger than a common pea; and the largest, as an ordinary walnut, longish like an olive."

In India the cowry was an important currency - and even large transactions like the building of a property were paid in millions of cowries. Not unnaturally, the cowry became scarce in its home waters and traders found that they could exploit *Cypraea annulus*, because it was so similar to *C. moneta*. These could be found in huge quantities off the Zanzibar coast. The resulting inflation of the cowry led to an odd situation in the Sudan where once they had been highly prized. About 71b weight of cowries would fetch a shilling but the Arab slave driver found that slaves carrying cowries over the vast distances of the Sudan would eat the value of the load in a few weeks and it became an unprofitable business.

By 1851 inflation was undermining the trade. Cowries were so plentiful and so cheap that counting them became a very time consuming matter. Town governors packed them in sacks - 20,000 to the sack. But when used between private individuals they had to be counted, in fives. Barth wrote: "The general custom is to count them in fives, in which operation some are very expert, and then to form heaps of 200 or 1000 each. The counting of 500,000 shells is a really heroic work".

The use of cowries as money became common place in most African countries at one time or another and in some, like Ethiopia, cowries are still used in remote corners of the land. As far as we can tell cowries were never used as currency in the United States. They have been found in mounds and early burial sites and were sacred emblems among the Ojibwa and the Menomini tribes (west of the Great Lakes), and were also used in initiation ceremonies. But there has been no evidence of their monetary use in North America.

The above is a summary of the complex subject of cowries used as money. For those readers who would like to study the subject in more depth the following books are recommended:

- Dance, S.P. 1966. *Shell Collecting*. Faber and Faber.
 Hingston Quiggin, A. 1949. *A Survey of Primitive Money, the Beginnings of Currency*. Methuen & Co. Ltd., London.
 Wang Yu-Ch'uan 1980. *Early Chinese Coinage*. Sanford J. Durst Numismatic Publications, New York. (Regarded as the most authoritative work on the subject, it contains a 35-page chapter dealing with "Money Before Coinage - cowries and their imitations".)
 Saul, M. 1974. *Shells*. Hamlyn Publishing Group Ltd.

All the items figured in this article are in the personal collection of the author. Figures A-F feature on page 18

Field Meeting Report: New Forest Ponds, near Brockenhurst, Hampshire 12th June 2004 *Martin Willing: October 2004*

Our visit to a selection of ponds in the Brockenhurst area of the New Forest was accompanied by perfect summer weather. Society members Graham Long, John Poland, Tony Smith, Terry Wimbleton and Martin Willing, together with Naomi Ewald of the Hants & Isle of Wight Wildlife Trust and Richard Reeves of the New Forest Museum, attended the meeting. The focus of the day was the launch of the Conchological Society's involvement with the New Forest Ponds Project, a venture described previously in Conservation News (Mollusc World 2: 10 – 11). Although interested in records of all of the freshwater molluscs recovered, we were primarily concerned to look for populations of the rare and declining species *Lymnaea* (= *Omphiscola*) *glabra*. Before the meeting Naomi very kindly provided the locations of hundreds of ponds in the Forest, but on this meeting it was decided to focus upon sites close to Brockenhurst. The day started by visiting a pond at Standing Hat where *L. glabra* had been recorded previously, hopefully to reconfirm the species' presence and also allow members to familiarise themselves with the snail. Fortunately the snail's presence was re-confirmed and we went on to survey a further 5 ponds during the rest of the day. Two of these were found to support further,

previously unrecorded, populations of *L. glabra*. A feature of most of these ponds was a suite of species typical of sites subject to periods of occasional drought, which included, in addition to *L. glabra*, *Anisus leucostoma*, *Pisidium personatum*, and *Lymnaea palustris*.

The discovery of two new populations of *L. glabra* in the New Forest in only 5 sites suggests that further surveys are likely to locate many more populations in the region. At least two initiatives will be continuing pond studies in the Forest. Graham Long, who lives on the western fringe of the area, is planning to undertake further pond surveys, whilst Naomi Ewald, is just starting a D.Phil research project at Sussex University investigating the 'impacts of climatic change on temporary ponds and their associated communities'. The study of molluscan populations is expected to form an important part of Naomi's work, which will include surveys of at least 50 New Forest ponds.

Thanks are due to Naomi Ewald and Richard Reeves for guiding us to the survey ponds and for sharing their knowledge of the Forest.

Field meeting survey results:

Site & grid. ref.	Brief site description	Species recorded (naming follows Kerney, 1999)
1: SU 314037 near Standing Hat	Small interlinked ponds with livestock-poached muddy margins, partly over shaded by a variety of trees including oak, birch, pine, yew and service.	<i>Potamopygus antipodarum</i> , <i>Lymnaea glabra</i> , <i>Lymnaea peregra</i> , <i>Anisus leucostoma</i> , <i>Pisidium personatum</i> , <i>Pisidium obtusale</i> .
2: SZ 350990 Crockford Bridge Marl Pits	A series of disused marl pits partly over-shaded by sallows, oak and birch. Some ponds with permanent water with other temporary	<i>Potamopygus antipodarum</i> , <i>Bithynia tentaculata</i> , <i>Lymnaea glabra</i> , <i>Lymnaea palustris</i> , <i>Hippeutis complanatus</i> , <i>Musculium lacustre</i> , <i>Sphaerium corneum</i> , <i>Pisidium nitidum</i> , <i>Pisidium milium</i> , <i>Pisidium obtusale</i> .
3: SZ 367977 Sheepwash Pond near East End	A series of heavily vegetated small ponds partly over-shaded by oak and willow and interconnected by a small stream bordered by small flushes	<i>Lymnaea peregra</i> , <i>Anisus leucostoma</i> , <i>Hippeutis complanatus</i> , <i>Sphaerium corneum</i> , <i>Pisidium nitidum</i> , <i>Pisidium obtusale</i> .
4: SU 317025 Whitley Ridge Marl Pits	A small, partially dried pond filled with oak leaf-litter and heavily over-shaded by oak and alder.	<i>Lymnaea peregra</i> , <i>Lymnaea palustris</i> , <i>Anisus leucostoma</i> .
5: SU 302047 Spore Lake Pond	A small permanent pond situated at the end of a grazed field with one margin shaded by sallows	<i>Lymnaea glabra</i> , <i>Lymnaea peregra</i> , <i>Anisus leucostoma</i> , <i>Musculium lacustre</i> , <i>Pisidium obtusale</i> .
6: SU 305046 Hollands Wood Marl Pits	A small very shallow pond lying in an old marl pit surrounded by sallows.	<i>Lymnaea peregra</i> , <i>Lymnaea palustris</i> , <i>Lymnaea stagnalis</i> , <i>Anisus leucostoma</i> , <i>Hippeutis complanatus</i> , <i>Planorbarius corneus</i> .



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1. *Lymnaea glabra*
2. Meeting Site 1 at Standing Hat Brockenhurst; Terry Wimbleton searching for *Lymnaea glabra*;
3. Meeting Site 2 at Crockford Bridge Marl Pits; one of this pond suite in a drought condition; *L. glabra*, *Pisidium obtusale* and *Anisus leucostoma* were found amongst damp oak leaves and mud.
4. Meeting Site 5 at Spore Lake Pond; Naomi Ewald, Richard Reeves, Terry Wimbleton and Graham Long successfully search for *Lymnaea glabra*.

All photos Martin Willing

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 again be taking 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

NHM – Saturday
11 December 2004
14:30h in the Demonstration Room.

We welcome as Guest Speakers Keith Hiscock & Nova Mieszkowska from Plymouth on the subject of ‘Topshells and climate change in Britain and Ireland’.

NHM – Saturday
29 January 2005
14:30h in the Demonstration Room.

We welcome as Guest Speaker Ellinor Michel from London on the subject of ‘Gastropod speciation in tidal situations in African lakes’.

NHM – Saturday
26 February
14:30h in the Demonstration Room.

We welcome as Guest Speakers Mike Allen from Warminster on the subject of ‘Molluscs in archaeology’.

Abstract

Archaeologists, well some archaeologists, have for over a century been interested in the information that land snails can provide to help us understand the past. Originally this was based on the assumption that land snails from archaeological sites may provide information about past climates. Subsequently, as palaeo-geographers did before, land snails were used to provide a general understand of the history of the landscape and countryside in which the locations of past activities resided and as such are extolled in John Evans seminal work (Evans 1972).

Ever inquisitive archaeologists are asking questions which require greater and greater resolution, detail and precision. Those of us studying snails too, are interested in this, but recently have also more interested in using them to ‘tell stories’ of archaeological relevance. In so doing, we have broken a number of long held assumptions about the nature of the chalk downland in prehistory, about the reverence or lack of it of prehistoric burial sites, possible explanations for Stonehenge: all from the analysis of snails. This illustrated lecture will demonstrate a whole range of those stories – and demonstrate how the archaeologist needs snails.

WKSHP – Saturday 5 March
Richmond, Surrey

Molluscs in microfossil
samples
Bookings to Adrian Rundle
(020 8878 6645)(home)
[postponed from August 2004]

FIELD - Saturday 19 and
possibly Sunday 20
March

Breconshire
Leader: David Long (with help
from John Harper)
(01242 527673) (home)

To look for *Phenacolimax major*
and possibly *Abida secale*. Meet
at 10:30 h at the carpark for
Pwll-y-wrach Nature reserve
SO 164328 (south east of
Talgarth) - by kind permission
of the Brecon Wildlife Trust.
As parking is limited please
contact David Long in advance
for details - we may need to
park some cars in Talgarth.
This area is near the western
limit of the known range for *P.*
major.

We are looking at the
possibility of a visit to Darren
Fawr grassland and scree
reserve on 20 March.

NHM – Saturday 16 April
14:30h in the Demonstration
Room.

Annual General Meeting
Presidential Address by Dr Jan
Light on the subject of
'Molluscs as major
contributors to the Recent
biogenic carbonates of the
West Shetland Shelf'.

Abstract
Cold water carbonate
deposits are entirely biogenic
and a Northeast Atlantic
Carbonate Province (NEACP)
extends from the western
entrance of the Mediterranean
Sea (36°N) to Spitsbergen in
the Arctic Circle (80°N). In
favourable areas, where input
from land sediments to the
seabed is low, sediments rich
in the shelly remains of at
least 12 major groups of
calcareous organisms
accumulate, and molluscs are
the dominant contributors. An
analysis of a dataset of
sublittoral sediments and

associated benthos from the
West Shetland Shelf (WSS)
showed that certain species
and associations of species
play an important role in the
carbonate system. Three
distinctive carbonate-
producing biotas give rise to
recurring facies (groups of
similar sediment types), both
on the WSS and elsewhere in
the NEACP and can be
characterised as three
carbonate 'factories'. The
calcareous faunas which
power these factories,
especially the molluscs, will
form the basis of the
presentation.

FIELD - Saturday 21 May
Treswell Wood,
Nottinghamshire.
Leader: Chris du Feu
(01427 848400) (home)

FIELD - Saturday 4 June to
Monday 6 June
Durham area.
Leader: Rosemary Hill
(0118 966 5160 or 0121 443
1459) (home)

FIELD - Saturday 16 July
Bristol area.
Leader: Tony Smith
(0117 965 6566) (home)

NHM – Saturday 10
September 2005:
14:30 h in the Demonstration
Room.

We welcome as Guest
Speaker Georges Dussart
from Canterbury on the
subject of 'Deep effects of
environmental water
chemistry on shells of
freshwater gastropods'.

FIELD - Saturday 1 October
Bredon Hill, Worcestershire.
Leader: Harry Green
01386 710377 (home)

NHM – Saturday 15 October
14:30h in the Demonstration
Room.

We welcome as Guest
Speaker Martin Willing from
Midhurst on the subject of
'Molluscs and favourable
conservation status: what does
this mean?'

FIELD - Saturday 22 October
[Details later]
Leader: Liz Biles

WKSHP – Saturday 26
November

The annual workshop held in
Woking offers members the
opportunity to receive tuition
on identifying difficult groups.
Bookings to Judith Nelson
(01483 761210)(home)

NHM – Saturday 10
December
14:30h in the Demonstration
Room.

We welcome as Guest
Speaker Trevor James from
Monks Wood on the subject
of 'The NBN network and
wildlife recording'.

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of the pelagic *Loligo forbesii*.
On the storm line I found a
dozen adult and juvenile
Aporrhais pespelicani.

On Sunday we visited
Exmouth Beach and sampled
Sabellaria alveolata tubes.
They were broken up and
washed in freshwater. Very
unexpectedly we found
several *Acanthochitona crinitus*
which were sheltering
amongst the tubes. We found
a few *Noemiamea dolioliformis*,
which was what we were
looking for, and *Odostomia*
plicata, *Brachystomia carrozzai*,
all pyramidellids which are
external parasites on the
worms. Living in the tubes
were also small *Venreupis*
senegalensis, *Hiatella arctica*
and *Turtonia minuta*. A very
interesting community!

We would like to thank Janet
Sawyer for her hospitality,
wonderful meals and the
essential use of her 'shell
kitchen' for sorting, sieving
and preparing our finds.

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