Speaker Dinarzarde Raheem from NHM London on the subject of 'Land snails in tropical forest: the diversity, distribution and conservation status of the Sri Lankan land-snail fauna'.

Abstract

Sri Lanka has a diverse land-snail fauna rich in endemic species. Most Sri Lankan land snails are partly or wholly restricted to the highly fragmented rain forests of the island. The talk will explore patterns of distribution and issues relevant to the conservation of Sri Lankan land snails in fragmented natural forest landscapes.

YCS - Saturday 6 October

Squares NZ 20/21/30 south of Darlington. Contact: David Lindley (0113 2697047) (home), david.lindley3@ btinternet.com

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Meet at 10:30h at the parking area on A66 at Scotch Corner, grid ref. NZ 209052.

FIELD - Saturday 13 October

please note change of date

Suckley area, Worcestershire. Malacolimax tenellus search. Leader: Harry Green (01386 710377) (home)

The aim of this meeting is to visit an ancient woodland near Suckley, Worcestershire, in search of land molluscs. especially the Yellow Slug

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Malacolimax tenellus and is one of a series of visits to west Worcestershire.

Meet in the car park at The Talbot, Knightwick, grid ref. SO 733560, at 10:30 h.

NHM – Saturdav

3 November 14:30h in the Demonstration Room.

We welcome as Guest Speaker Robert Cameron from Sheffield University on the subject of 'Chasing snails Down Under'.

WKSHP – Saturday 24 November

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

Please note Hilbre is a non-smoking property Those attending should please bring a microscope and lamps (a few microscopes are available if booked in advance), Petri dishes or other dishes for sorting purposes, a fine water colour paint brush (00), tweezers/forceps, dissecting tools, if possible an extension lead and/or double electric plug, books to help identification, and a packed lunch. Coffee, tea and biscuits are provided. As numbers for the workshop are limited, please confirm any booking made by 1 November so that it can

be checked whether there are any places vacant. Those NOT confirming by 1 November will be taken as not wishing to attend and their place will go to someone else. No reminders will be given. A fee of £5 will be charged to cover expenses.

PLEASE BOOK EARLY.

The programme for November 2007 is as follows but subject to change: Identification of Lymnaeidae, Planorbidae and small bivalves

NHM – Saturday 8 December 14:30h in the Demonstration Room.

We welcome as Guest Speaker Tom Walker from Reading on the subject of 'Shells on stamps'.

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Mollusc World **ISSUE No.14**



i uLY 2007

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THE MAG AZINE OF THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN & IRELAND

Guest Editorial

Ian Killeen is currently surveying mussels, and has been for most of this summer, and so I have stepped in to put together this issue. Whilst getting revised costings we discovered that we could increase the colour content for the same production price. Hence we have reorganised the magazine to put in colour photographs closer to the article which has delayed the production by a few weeks. I hope you like this new look and will feel stimulated to add more content to the next issue. Whether you have been shell collecting from the beach or finding an exotic dish in your restaurant on holiday, it's your opportunity to share this insight with fellow members.

Speaking of travelling, there were quite a few Conchological Society members at the World Malacological Congress and the attendance of over 430 mollusc specialist shows there is still an active

molluscan community, including many new faces as over 100 students from 48 countries were present. We will put a report of some of the interesting events in the next issue. In terms of future notices, the next meeting will be in Thailand in July 2010 on the island of Phuket

In this issue, we have a variety of more cultural articles, looking at our churches and old houses. There's a specialist view of shell jewellry from Morocco written by an archaeologist. Climate change is becoming a current issue, as we look at our changeable weather patterns for this summer. David Long has written to get feedback from the membership on their summer experiences, as in the Cotswolds he has found litter snails very sparse. In contrast, in our rivers Ian Killeen found survey work in the welsh borders nearly impossible with the high sediment loads and water levels in late June/ July. The discovery of populations of species like *Assiminea grayana*, far from previous sites shows how much work there is still to do on our local fauna Adrian Norris, has written a introduction as new Non-marine recorded. I would encourage you all to start doing some more recording in your local area; many 10 km2 squares have not been visited for nearly 30 years, since the work on the first Kerney Atlas. Clearly we need to compile time series data on our common widespread species as well as identifying the advancing species such as Hygromia cinctella, Boettgeria pallens, the declining species such as Truncatellina cylindrica and the recent spilt such as Balea heydeni. With the new recording cards available on the website I hope you will feel motivated to contribute to the recording scheme, as if we want to assess whether our fauna is changing, we will need data on all species, not just the rarities.

Mary Seddon.

Mollusc World

This magazine is intended as a medium for communication between members on all aspects of Molluscs from archaeology to life in the sea, field collecting at home and abroad and even eating molluscs. If you look back on the content over the last three years we include articles, field meeting reports, research news, results from the mapping schemes and identification keys. We welcome all contributions in whatever form they arrive.

How to submit articles:

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Copy (handwritten, typed or electronic) should be sent to the Editor at the address below. If sending electronic copy using e-mail please include a subject line "Mollusc World submission" and send a separate mail without any attachments advising that the e-mail was sent. Electronic submission is preferred in Microsoft Word, but if other programmes (e.g. Works) are used, please indicate the programme used with the accompanying e-mail.

Images and Artwork may be digitised, but we recommend that a digital image size no larger than 8" x 6" and 300 dpi be sent with your submission. For line art we recommend that you send hard copy, all originals will be treated with care and returned by "snail-mail".

Please send articles to:

Ian Killeen, 53 Charleville Square, Rathfarnham,

Dublin 14, Ireland.

E-mail: iankilleen@eircom.net

About the Society

The Conchological Society of Great Britain and Ireland is one of the oldest societies devoted to the study of Molluscs. It was founded in 1876 and has over 300 members worldwide. Members receive two publications Journal of

Conchology which specialises in Molluscan Biogeography, Taxonomy and Conservation and Mollusc World, our newsletter for members. New members are always welcome to attend field meetings and indoor meetings before joining.

How to become a member

Subscriptions are payable in January each year, and run for the period 1st January to 31st December.

Ordinary membership	£33.00
Family/Joint membership	£35.00
Institutional membership (UK & Ireland)	£47.00
Institutional membership (Overseas)	£50.00
Student membership	£15.00

Payments in sterling only, to membership secretary at address below. £1 discount given to payments before March 31st each year. For UK residents we suggest payment by standing order, and if a UK tax payer at standard rate we encourage you to sign a Gift Aid form.

Overseas members can pay by IBAN transfer to the following account:

The Conchological Society, National Westminster Bank, Bolton, BL1 1BN

IBAN GB12 NWBK 0130 9906 5238 46 BIC NWBK GB2L

Contact: Mike Weideli, 35 Bartlemy Road, Newbury, Berks, RG14 6LD

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Molluscs & **Misericords** John Robinson

We all know what the former are, but perhaps not everyone has come across the latter. A misericord, from the Latin word *misericordia*, meaning act of mercy or compassion, is a modification to the stalls used by monks in the part of the church known as the choir or quire. Normally the monks would have been expected to stand when observing the many holy offices held throughout the day, but as a concession to elderly or infirm monks who found standing for long periods difficult, the stalls were modified to







include a small hinged shelf on which they could lean. First appearing in the eleventh century, they continued to be made into the sixteenth century, and originally were simple and without decoration. As we shall see, later ones were elaborately carved on the underside depicting all manner of fables and animal imagery, some rather crude, but others beautifully carved and polished .

Misericords depicting molluscs are not as rare as one might expect. They are usually stylised depictions making identification difficult, with the exception perhaps being the scallop. Fig 1 shows a C15th example of this in St Peters church in Hackness North Yorkshire, a beautiful old church with Saxon origins. As well as the shelf, the supports are also carved with scallop shells. It is thought that these choirs originally came from Whitby Abbey. Another example of the scallop, illustrated in Fig 2, can be found in St Margarets church in Kings Lynn. Dating to the late C14th, they show the coat of arms of Robert de Scales, a prominent Norfolk family of that time.

A child issuing from a shell was said to symbolise innocence or virtue confronting evil. Beverly Minster in Yorkshire has 68 misericords, the largest number in the country, dating from 1520. One of them, Fig 3, shows just such a child emerging from a shell to confront 2 wyverns, while the shelf support has a man attacking a snail with a stick.

The misericords in Manchester Cathedral are considered to be among the finest in Europe. Fig 4 illustrates a C16th carving showing a child rising from a shell wielding a short sword to confront a dragon. Norwich Cathedral has a similar C16th example with a carving of a pilgrim emerging from a shell also holding a short sword or dagger, which is illustrated in Fig 5. (Incidentally, misericord is also the word for a small mediaeval dagger used to give the death stroke to a wounded foe).

In mediaeval times, some people believed that the soul of a newly born child could be placed in a coconut shell for







safekeeping. In Durham Cathedral there is a misericord where the nut splits into two cornucopia shells overflowing with fruit and foliage,



between which the childs well-fed body ends in swirling leaf formations.

There are many churches with misericords, and some have ones

depicting shells. Next time you are out and about, and you come across a mediaeval church, pause a moment and see if it contains some of these rather beautiful carvings, perhaps you too will be lucky enough to come across a shell.

I would like to express my thanks to the following people who were very helpful with the composition of this article:-

Joanne Hooper and Canon Denby Manchester Cathedral Jane Myers Beverly Minster Ken Harvey (photo credit) Norwich Cathedral Shiela Coulson St Peters Church Hackness Liz James St Margarets Kings Lynn

Calling All g ardeners Chris Buckle

We all know the sort of damage slugs and snails can cause to our favourite garden plants. While we wish to protect our plants from such damage, as eco-friendly gardeners and conchologists, we do not wish to harm the molluscs.

Some herbaceous plants, while not immune to slugs and snails, will survive relatively unscathed in most gardens, so why not plan your garden from some of those. The following list is from Andrew Halstead in "The Garden", April 1999, the Journal of the Royal Horticultural Society (Vol. 124 page 273)

Acanthus mollis Achillea filipendulina Agapanthus hybrids & cultivars Alchemilla mollis Anemone hupehensis & A.x hybrida Antirrhinum maius Aquilegia species Armeria species Aster amellus, A.x frikartii & A.x novae-angliae Astilbe x arendsii Astrantia maior Bergenia Centaurea dealbata & C. montana Corydalis lutea Cynara cardunculus Dicentra spectabilis Digitalis purpurea Erygium species Euphorbia species Foeniculum vulgare Fuschia cultivars Gaillardia aristata Geranium species Geum chiloensis Hemerocaulis species Liastris spicata

I vsimachia punctata Myosotis species Nepeta x faassenii Papaver nudicaule & P. orientale Pelargonium Phlox paniculata Physostegia virginiana Polemonium foliosissimum Polygonum species Potentilla hybrids & cultivars Pulmonaria species Rudbeckia fulgida Salvia x superba Saxifraga x urbicum Scabiosa caucasica Sedum spectabile Sempervivum species Sisyrinchium species Solidado species Stachys macrant/ia Tanacetum coccineum Thalictrum aquilegifolium Tradescantia virginiana Tropaeolum species Verbascum species Ornamental grasses & sedges

Assiminea grayana Fleming, 1828 now apparently well established on the NW coast Simon Taylor

Travelling back from Cumbria in early February, I decided to stop off at Bolton-le-Sands at the top of Morecambe Bay to stretch my legs. It was nearly high tide and so offered the prospect of good birdwatching. Whilst pottering about on the marsh by the high water mark, I found a stranded mermaid's purse (Thornback Ray Raja clavata (L., 1758)) and idly picked it up. On returning to the car I noticed the purse was studded with tiny gastropods and, assuming they were Hydrobia, tucked it away in a bag for identification to species level later.

When the time came, the snails soon began to emerge when encouraged with the prospect of some food and water. However, where were the tentacles? Examination under magnification revealed mere stubby appendages instead, with eyes towards the ends, identifying the snails as not Hydrobia at all but Assiminea grayana. However, this was confusing as the text books state this is a species not found on the western coast of the UK (Fretter & Graham 1978; Graham 1988; Poppe & Goto 1991). Yet here I had specimens, self-collected (13 in all, from the one purse) and undoubtedly from the west coast. Somewhat confused, I contacted Jan Light, who kindly confirmed my identification and informed me of a recent discovery of the species present in some numbers in a locality in Cumbria, just the other side of Morecambe Bay. Further to this, records were publicised of apparently well established populations in Merseyside (Charlton & Ruscoe 2007) and earlier 1990s records from the Shannon estuary in western Ireland came to light (Capel 2004).

All in all this represents a considerable and relatively rapid expansion in distribution for the species. The small size of the species (H<5mm) and its durability as an inhabitant of the extreme HWST zone suggest that it would be readily transported by many vectors, either natural (on the feet of migratory birds perhaps) or influenced by the activities of man. However, such vectors are not new phenomena, further suggesting that other factors have allowed the species to establish on western coasts when previously this was thwarted. The obvious conclusion is that this represents further evidence for the influence of climate change. But in what way? Has there been a change in sea level, mean water and/or air temperature, salinity or perhaps the extremes of any or all of these criteria? Capel (2004) suggests salinity is a key factor for the species. The answers are certainly not presented here, but the question is posed for future research.

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Treasurer's Report 2006 A summary of the Financial Statements adopted at the A.G.M. on 31st. March 2007

	2006	2005		2006	2005
Income					
Fees and subscriptions	£13,491	£11,601	Total expenditure	£20,508	£22,612
Investment income	£5,567	£5,350	Profit (Loss)	(£416)	£607
Other income	£401	£1,367	110111 (2055)	(2410)	2077
Donations and legacies	£633	£4,991	Gain on revaluation		
Total income	£20,092	£23,309	of investments	£2,578	£5,122
Expenditure			Net movement in funds	£2,162	£5,819
Publication costs	£16,186	£17,726	Fund halances		
Stationery and postage	£982	£1,133	brought forward	£117 880	£112 061
Meeting costs	£1,134	£1,266	biought forward	2117,000	2112,001
Sundry expenses and fees	£546	£687	Fund balances		
Grants awarded	£1,660	£1,800	carried forward	£120,042	£117,880

The cost of benefits to members by way of publications and meetings in 2006 exceeded the cost of their subscriptions by £3829. This means that, on average, each member received £13.11 in benefits more than they paid in subscriptions. Despite a small loss on the year of £416, we were able to award two

(4)

Research Grants during the year – £1000 to Adele Grindon, and £660 to Luciana Génio. Making such grants is an important aspect of our charitable work. Application forms for grants for original work of molluscan research are available from the Honorary General Secretary. The closing dates for receipt of

applications are 1st. May and 1st. November. As far as possible applicants should select a closing date which will provide a decision in sufficient time to comply with booking requirements of apex and similar cheap fares.

Pryce Buckle

FIELD MEETING

Phenacolimax major and other molluscs at Ardingly 24-25 March 2007 Ron Boyce

The field meetings in the Ardingly area on 24-25 March Arrangements were put in place to hold the route march were arranged as part of the ongoing Conch Soc project to part of the meeting on the Saturday and the Wakehurst determine the current distribution of the moisture-loving Place exploration on the Sunday. semislug *Phenacolimax major*, the intention being to look On the Saturday two members began at the Reservoir car for this animal at sites where it has been found in the past and to search in promising habitat in other previously park, in dull overcast weather with persisted for the entire unworked areas. An early reconnaisance of the area day, and walked along the eastern side of the reservoir armed with local grid references from the Society's nontowards the road bridge, searched without success in the marine database indicated that because of difficulties with wet woodland on the other side of the reservoir and then car parking some sites would be impossible to visit at all made our way eastwards along the road to the roadside quickly, but two or three could possibly be managed via a site where *P. major* had been found under stones in 1973, long route march from the Ardingly Reservoir car park. Dr only to find that the potential site had been converted into Barry Colville also kindly supplied me with a few grid a small lavby and there were no stones of any kind. Only a references in the area for potentially mollusc-rich sites. few paces from this spot was a notice declaring permit-One of these was in an area of the National Trust's only access to the Loder Valley nature reserve belonging to the Royal Botanic gardens at Wakehurst Place. Wakehurst Place estate not normally accessible to the public. The estate is immediately north of Ardingly Reservoir and is managed on behalf of the Trust by the We ventured a short distance along the pathway in search Royal Botanic Gardens, who were extremely helpful in of what we thought might be suitable habitat, and found a offering us escorted access to the site in question. small stream traversing a patch of soft mud with clumps of





pendulous sedge Carex pendula and considerable amounts of oak leaf litter. We turned over a few dead leaves, and there it was!

By this time two hours had gone by.

The next nearest historic site for *P. major* lay along what we knew to be an extremely narrow winding road with sharp gradients, serious traffic and no footways. A spot of map reading indicated that we could walk onward along the path at the edge of the reservoir and we would eventually meet up with the road again anear the desired site. Other suitable sites might be found on the walk.

Five and a half hours later and we had only checked two

FIELD MEETINg



of the sites, and it was still a long way back to the car.

The following day was again dull and overcast. Seven of us assembled in the car park at Wakehurst Place where we made our acquaintance with Steven Robinson, the warden of the Loder Valley nature reserve which forms part of the Wakehurst estate.

Wakehurst Place is owned by the National Trust but the garden there is leased to and operated by the Royal Botanic Gardens Kew. Part of the estate beyond the garden is farmed for red deer, and it came as quite a surprise to be taken along a narrow pathway with high wire netting fences to each side. Beyond this was a large tract of wet woodland with similar high wire fences. It was now beginning to dawn on us why the mollusc-rich site that Barry had investigated was now a no-public-access area.

Steven unlocked the gate and took us through into the woodland which was wet alder carr with coppiced hazel understorey and much opposite leaved golden saxifrage. The site was very level and waterlogged with streams running through, and surprisingly little leaf litter considering the tree density. There was no pendulous sedge or other types of herbaceous plants that would have offered good hiding places for molluscs, and the soil there was much sandier than it had appeared at first sight. Despite the unpromising appearance of the site, 25 live mollusc species were recorded.

As the warden needed to be elsewhere from lunch time onward, I quickly gathered a quantity of leaf litter from Barry's original grid reference and we exited the wood via another gate which had been specially installed so that the late Francis Rose could regularly monitor a community of rare mosses on a rock outcrop. We now found ourselves next to the Visitor Education Centre which had a particularly convenient set of picnic benches for hungry conchologists to lunch at. The Loder Valley nature reserve





could now be accessed via a locked gate, but this had a keypad combination lock and could be opened provided one knew the code number.

Peter and Pam Wilson briefly investigated an area at the start of the reservoir near to the Education Centre and found live *Sphaerium corneum* and an empty shell of *Anodonta anatina.*

After lunch the seven of us entered the reserve and immediately came across a bank of purple flowers growing straight out of the soil, with no sign of any leaves. Peter Wilson said that it was an exotic toothwort parasitic on tree roots that had escaped from the botanic garden (*Lathraea clandestina*, apparently).

We continued down the path into the reserve, and as soon as we encountered a stream began our search. We were finding different molluscs now, and it was not long before we encountered our first *Phenacolimax major*, in wet oak leaf litter among a patch of bluebells. The second one was near a log above a stream in a narrow valley containing hazel coppice and much dead wood. The third one was two metres above the stream in the middle of a pendulous sedge plant among plentiful oak leaf litter. The fourth was



in a broken log about 1.5 metres above the stream where there was very moist bare clay soil. The valley of the third stream we came to also looked fairly promising. A patch of pendulous sedge among fallen timber with oak and hazel leaf litter yielded yet another *P. major.*

Peter and Pam had a further look at the margin of the reservoir not far from the third stream with their water sampling equipment and found live *Pisidium personatum* and *Potamopyrgus antipodarum* as well as a range of water beetles and mayfly and caddis larvae.

The leaf litter samples from Barry's original site beyond the deer enclosure contained fairly high quantities of fine sand which suggested that a flood event had occurred there some time during the winter. The samples contained only 3 species over and above what we had originally found at the site; these were *Succinea putris, Carychium minimum* in large numbers, and a single dead shell of *Acicula fusca*.

Our grateful thanks are due to Steven Robinson and the Royal Botanic Gardens authorities at Wakehurst Place for access to the Loder reserve.

photo credit: Ron Boyce

- 1 Semislug *Phenacolimax major* at lower end of Loder reserve
- 2 Semislug *Phenacolimax major* near Balcombe Mill
- **3** Working a stream valley in the Loder reserve
- 4 Purple toothwort *Lathraea clandestina* in Loder reserve
- 5 *Limax maximus* and adult and juvenile *Limax cinereoniger* in Loder reserve
- 6 Semislug *Phenacolimax major* at top end of Loder reserve

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Table 1Mollusca found at Wakehurst Place on
25 March 2007

Key:

- 1 Wet woodland enclosure at TQ 331315
- **2** Leaf litter collected at TQ 332315
- 3 Lakeside near Wakehurst Place visitor education centre
- 4 First stream at top of Loder Valley reserve TQ 332302
- 5 Third stream in Loder Valley reserve TQ 333307

Potamopyrgus antipodarum	L 3		
Anodonta anatina	L 3		
Sphaerium corneum	L 3		
Pisidium personatum	L 3		
Acicula fusca	S 2		
Carychium minimum	L 2		
Carychium tridentatum	L 1	4	5
Succinea putris	L 2		
Oxyloma pfeifferi	L 1		
Cochlicopa lubrica	L 1	2	
Columella aspera	L 1		
Columella edentula	L 1	2	4
Discus rotundatus	L 1	5	
Arion subfuscus	L 1		
Arion intermedius	L 1		
Arion distinctus	L 1	5	
Arion silvaticus	L 5		
Arion fasciatus	L 5		
Phenacolimax major	L 4	5	
Vitrea crystallina	L 1	2	5
Nesovitrea hammonis	L 1		
Nesovitrea hammonis	L juv 2		
Aegopinella nitidula	L 1	2	4
Aegopinella pura	L 1	2	
Oxychilus alliarius	L 1		
Oxychilus helveticus	L 1	4	
Zonitoides excavatus	L 1		
Zonitoides nitidus	L 1	4	
Limax cinereoniger	L 5		
Lehmannia marginata	L 1		
Deroceras laeve	L 1		
Deroceras reticulatum	L 1		
Euconulus alderi	L 1		
Euconulus alderi			
	S 2		
Euconulus fulvus	S 2 L 1	4,	5
Euconulus fulvus Cochlodina laminata	S 2 L 1 S 1	4,	5
Euconulus fulvus Cochlodina laminata Cochlodina laminata	S 2 L 1 S 1 L 4	4, 5	5
Euconulus fulvus Cochlodina laminata Cochlodina laminata Macrogastra rolphii	S 2 L 1 S 1 L 4 L 1	4, 5 4	5 5
Euconulus fulvus Cochlodina laminata Cochlodina laminata Macrogastra rolphii Clausilia bidentata	S 2 L 1 S 1 L 4 L 1 L 5	4, 5 4	5 5
Euconulus fulvus Cochlodina laminata Cochlodina laminata Macrogastra rolphii Clausilia bidentata Trochulus hispidus	S 2 L 1 S 1 L 4 L 1 L 5 L 1	4, 5 4 5	5

Shell ornaments provide group identity in the Palaeolithic

Nick Barton

Contacts: nick.barton@arch.ox.ac.uk & f.derrico@ipgq.u-bordeaux1.fr

A major question in evolutionary studies today is how early did humans begin to think and behave in ways we would see as fundamentally modern? One index of 'behavioural modernity' is in the appearance of objects used purely as decoration or ornaments. Such items are widely regarded as having symbolic rather than practical value. By displaying them on the body as necklaces, pendants or bracelets or attached to clothing this also greatly increased their visual impact. The appearance of ornaments may be linked to a growing sense of self-awareness and identity amongst humans and any symbolic meanings would have been shared by members of the same group.

In Europe, amongst the oldest known symbolic ornaments are perforated animal teeth and shell beads, found in Upper Palaeolithic contexts that date to no more than 40,000 years ago. Such finds are apparently associated with both modern human and late Neanderthal sites. Together with cave paintings and engravings they offer the strongest indications that European societies of those times were capable of thinking in an abstract manner, and symbolising their ideas without relying on obvious links between a meaning and a sign. But, now, a growing body of evidence indicates symbolic material culture consisting of engravings, personal ornaments and systematic use of beads had emerged much earlier in Africa. In a recently published paper in

PNAS (Proceedings of the National Academy of Sciences of America) archaeologists from Morocco, UK, France and Germany have been able to show that some of the

earliest examples of bead making may date back as far as 82,000 years ago in North Africa. The evidence is in the form of deliberately perforated Nassarius marine shells, some still smeared with red ochre, that were found deeply stratified in archaeological levels in Grotte des Pigeons at Taforalt in northeastern Morocco. Led by Abdeljalil Bouzouggar of Rabat University and Nick Barton of Oxford

University, a multidisciplinary team has been working in this massive limestone cave for the past five years. The finds come from a sequence of ashy deposits that have been independently dated by scientists at Oxford and in Australia using four different techniques which allow accurate age estimates for the layers with shells to be made. According to Nick Barton, the singular importance of these discoveries "is that they come from securely dated

archaeological contexts and show unequivocally that beadmaking traditions existed in Africa that are twice as old as those in Europe".





The interpretation of the findings are still regarded as controversial by some who would question any appearance of modern symbolic activity before about 40-50,000 years ago. The archaeological dating evidence from the Moroccan site is however indisputable. At Taforalt, 13 Nassarius gibbosulus shell beads have been recovered in a deeply stratified occupation horizon towards the back of the cave. The finds were all made close together and sealed in lightly cemented ashy lenses (the remains of

today. Small mammals, including desert-edge species such as jirds (brought into the cave by natural predators like owls) help prove that the climate was much drier at this point in the past.

The shell beads have been closely studied by Francesco d'Errico and Marian Vanhaeren of the French CNRS who have confirmed that they are a shallow marine species gathered from the beach, which even in the past lay more than 40 km from the



hearths) combined with abundant evidence of human activity in the form of lithic artefacts and animal bones. Amongst the stone tools associated with the shells are thin, bifacially worked foliate points typical of the Middle Palaeolithic Aterian technology, and probably used as spear heads. The bones of wild horse and African hare, found with them, represent human food residues.

Preservation of environmental evidence at Taforalt is also exceptionally good and reveals that at the time of the 'bead occupation' the landscape was dry, open and sparsely vegetated with some locally wooded habitat. This information is based on the charcoal identified in the hearth deposits of wood species including cedar that only grows in drier, upland environments in Morocco

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cave. Once collected, the dead shells were then probably perforated, ochred and used as personal ornaments. Some of the beads show microscopic wear patterns that would suggest they were suspended from a necklace or bracelet. The application of red pigment may have been intended to give them added visual symbolic value. There can be no doubt at all that this was part of a very deliberate cultural practice.

The beads are all the more extraordinary because the same types of marine tick shell (Nassarius) were used for making beads at a number of other Middle Palaeolithic sites in Africa and the Near East. D'Errico points out that "beads in the same shell species as at Taforalt, have also been found at Djebbana (in Algeria) and Skhul (in the Near East), and *Nassarius* shells of the same genus

were employed at Blombos Cave, a site located at the other end of the continent in South Africa". The new dating for Taforalt is older than at any of the other African sites and demonstrates that some time after 100,000 years ago personal ornamentation came into widespread use in Africa and the Near East. Preliminary work by the team has also shown that Nassarius shells are not isolated occurrences but are present at various other sites in Morocco. Dating evidence is still awaited for these and they may turn out to be as old or even older than Taforalt.

There is yet another twist: unlike in the Upper Palaeolithic of Europe, in which more than 150 bead types have been recorded in association with a single cultural grouping, only one or two different shell types are found at the much earlier sites stretching the length of Africa. It suggests that the role beads played in African and Near Eastern *Homo sapiens* societies may have been different from the one personal ornaments had in the Upper Palaeolithic of Europe. According to Vanhaeren the pattern seen in Africa "seems to match more closely the functions of beads among recent African hunter-gatherers where they were used as exchange media to reinforce reciprocity networks, thereby ensuring the survival of human groups in times of stress." These emblems of cultural identity may have been vital for guaranteeing group survival during periods of rapidly fluctuating climate and especially under intensely arid conditions of the kind recorded at Taforalt.

Photos: Nick Barton

- 1 Beads.
- 2 Outside cave.
- **3** Cave at Taforalt.

More news from South Yorkshire Robert Cameron

1. The Moss Valley Woods

In the July 2006 number of *Mollusc World* I wrote about the absence of clausiliid snails in the otherwise very rich woods within the Sheffield city boundaries. In that month, I had the opportunity to survey woods in the Moss Valley SSSI (at SK4180), right on the edge of the city, and effectively in a rural setting. I visited it again in November. In both cases, I was working with the Moss Valley Wildlife Group and the Sorby NHS.

Although it is surrounded by farmland, the Moss Valley is a typical Coal Measures stream valley, with steep sides and a flat, rather waterlogged base. Like those nearer the city centre, the woods there are full of the remains of earlier industry: old dams, millraces, engine houses, etc. While the sides are covered in planted beech and conifers, with some oak, the valley bottom is much richer, with alder, ash, sycamore, Norway Maple, willows and wych elm, and under these are lots of nettles, great willowherb, dog's mercury and yellow archangel.

I made two samples in the valley bottom, in similar woodland, about 300m apart; One was made in July and the other in November. In both cases, I searched for about an hour within an area of less than 1000 square metres, and collected and sieved lots of litter. The weather in July was hot and dry, though it had rained earlier in the month. The visit in November was mainly to find more slugs, which I was convinced had not been adequately sampled, but I could not resist making another snail sample too! Everything was a lot wetter.

The table shows the results of each visit. These woods are remarkably rich. With 38 species recorded for the two sites combined, and 37 for the July site (with some slugs added in November), they are richer, by a small margin, than anything I have found elsewhere in the city. What is notable is that both *Clausilia bidentata* and *Merdigera obscura* occur here, well to the south and west of major industrial pollution. C. bidentata is very common, and even in November I found many active or resting on tree trunks.

I do not know of any other woods off limestone or chalk that beat this for number of species. Nevertheless, Peter Tattersfield (*Journal of Conchology*, **33**: 355-374. 1990.) recorded 44 species among 17 rather similar woods on Millstone Grit, but a maximum of 35 from a single wood. There are several species in his list that were not found in Moss Valley, notably *Azeca goodalli, Euconulus alderi* (found in a small open marsh in the valley, but not in the woods), *Leiostyla anglica, Zenobiella subrufescens* and *Zonitoides nitidus*. Some of these can be very local in their occurrence, and could perhaps be found at some time in the future.

One of the many bees in my bonnet is the problem of knowing how complete, or representative, a sample is; while you can never be absolutely certain that you have Numbers of snails, and occurrences of slugs in the Moss Valley woods at Sheffield.

Snails Wood 1 Wood 2 Total Carychium minimum 6 27 33 Carychium tridentatum 113 201 314 Succinea putris 17 45 62 Cochlicopa lubrica 36 78 114 Cochlicopa lubricalla 3 21 24 Columella edentula 17 38 55 Vertigo substriata 3 0 3 Lauria cylindracca 41 336 377 Acanthinula aculeata 47 83 130 Merdigera obscura 9 8 17 Punctum pygmaeum 10 38 48 Discus rotundatus 182 208 390 Vitrina pellucida 11 19 30 Vitrea crystallina 16 51 67 Vitrea chundatus 182 208 390 Vitrea contracta 16 27 43 Aegopinella nura 57 123	Species	4/7/06	15/11/06	
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Overall species 37 33 38	Slug species	11	8	12
	Overall species	37	33	38

found everything, there are a few checks that can be made (there are more details in Cameron, R A D and Pokryszko, B M. 2005. Estimating the species richness and composition of land mollusc communities: problems, consequences and practical advice. *Journal of Conchology*,





38: 529-548.) In this case, I am pretty confident that the snail fauna for this part and kind of the woods is complete (maybe one extra species would not surprise me). No species are represented

by single specimens; the larger

second sample revealed no species not found in the first; The log frequency against rank diagram shows a dramatic descent at the rare end. The oddity is *Vertigo substriata* that was found in the first, smaller, sample but not in the second. Maybe it has a very patchy distribution, and the first site was marginally less disturbed.

The good news, from my point of view, is that the first sample gave a good record of the snail fauna. For the second, I took vast quantities of litter, and the processing took ages. Had I removed, identified and counted all juveniles it would have taken even longer. In this kind of wood, a sample of 500-1000 shells seems to be adequate.

2. *Cepaea nemoralis* in Sheffield.

In the July piece, I mentioned that lots of species, including *C*. nemoralis, seem to be returning to the city since it has become less polluted. This summer and autumn, I have started to sample it systematically across the city to see how populations vary in the spectacular colour and banding polymorphism in the shell. This is part of a joint project with my Polish colleagues Beata Pokryszko and Margorzata Olgo, who are doing the same in two cities there (Wrocław and

Gdańsk). So far, I have only covered the southwest quarter of the city, but it is apparent that *C. nemoralis* is very common, especially in long-derelict sites and in woods (Sheffield claims to be one of the greenest cities in the country). Judging by the number of "anvils" in the woods, song thrushes must be pretty common too. Nevertheless, there are districts where it does not occur, even though the garden snail *Cornu aspersum* does, and I suspect that the colonisation is still going on. There are also patches where it is replaced by *Cepaea hortensis*, mostly on higher ground to the west.

- The populations found so far differ from each other rather a lot, certainly far more than an equivalent number of samples from Wrocław, suggesting different patterns of colonisation and population sizes; we will try to relate this to the cities' histories in due course. Among the other species seen is the invasive *Hygromia cinctella*, which seems to have worked its way along one of the many valleys descending to the city centre.
- ic Over the next few years the Open University will be at running a public "Megalab" on variation in *Cepaea*. My information will go into the scheme, and I would be happy to hold workshops for any group that wants to participate. I think the public part will start in 2008/9.

Photo credits:

1. Cepea banding from samples from Gdańsk, Poland.

- R. Cameron
- 2. Robert Cameron sorting *Cepea* spp in Poland.
- B. Pokrysko

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Papillifera papillaris (Müller, 1774) in Britain: a giant leap for a small snail

Janet Ridout Sharpe

The article by Alex Menez in the last issue of *Mollusc* World concerning his finding of the clausiliid snail Papillifera papillaris in Gibraltar, and its ability not only to survive but also to reproduce in captivity in the British climate (Menez, 2007), has prompted me to describe the discovery of a free-living colony of this species at Cliveden in Buckinghamshire.

The existence of this colony first came to light in April 2004 after I had given a talk on 'Shells in archaeology' to a local amateur archaeological society, in which I mentioned the accidental introduction of land snails into new geographical areas as a result of the movement of people and trade goods. I was approached by a member of the audience, who told me about an 'unusual' snail that he had seen while cleaning statuary in the grounds of the nearby country house at Cliveden. This snail looked unlike any British snail that he was familiar with, so I asked him to send me a sample.

I recognised the snails as *Papillifera papillaris*, which I had previously collected at Ostia, near Rome, and my identification was confirmed by Geraldine Holyoak, then the Non-Marine Recorder of the Conchological Society. She deposited two shells as voucher specimens at the Natural History Museum, and the following year the record was briefly published in her annual report in the Journal of Conchology (Holyoak, 2005), although the location was not identified. The species was thus established as a new record for Britain, albeit as a 'persistent alien'.

But what was it doing at Cliveden, and how long had it been there? The present house at Cliveden was built in 1851 by the 2nd Duke of Sutherland and both the house and garden were influenced by the villas of the Italian Renaissance. In 1893 Cliveden was bought by William Waldorf, 1st Viscount Astor, and he continued the Italian theme by filling the garden with classical and Renaissance sculpture. One of these items was the Borghese Balustrade, which extends in two L-shaped sections across the whole of the formal garden below the terrace on the south-facing façade of the house (see photo 1). The balustrade was brought from the Villa Borghese in Rome and set up at Cliveden in 1896. The balustrade itself and its pedestals, which are deeply carved with the dragons and eagles of the House of Borghese, are made from travertine marble, and the sections are linked with brick-tile panels behind the seats (see photo 2). It was carved in 1618-19 for Cardinal Scipione Massimi, one of

the greatest art collectors and patrons of Baroque Rome. The house and garden at Cliveden are now owned by the National Trust.

Papillifera papillaris was originally found in the crevices and deeply carved details of the marble sections of the Borghese Balustrade. It was not seen anywhere else apart from the balustrade, and the colony was initially estimated to consist of about 100 individuals (Ridout Sharpe, 2005).

However, my informant from Cliveden, who worked as a National Trust volunteer in the garden, was only examining





the marble sections as he cleaned them. When Tom Walker and I visited Cliveden in November 2005, we were amazed and delighted to find that the snails were abundant all over the balustrade and particularly in the crannies in the brickwork panels where the mortar between the bricks had weathered away (see photo 3). In places, clusters of up to twelve or more snails were nestled deep within these crevices with just the tips of their

shells protruding. Most of the snails were adults, but a few half-grown iuveniles were also observed. They were more frequent on the north side of the balustrade facing the house, where the brickwork was damper and supported more lichen, but they were found on both sides and on the top (where 29 were counted beneath a loose piece of marble measuring approx. 5×10 cm), on the brickwork and on the marble, and they were fairly evenly distributed along the entire length of the balustrade, even including parts where the brick panels had recently been repaired. We estimated an overall population of at least 5000 individuals.

We examined the steps and their balustrade leading up to the south terrace of the house (see photo 4) and found a considerable number of *Papillifera papillaris*. There were fewer crevices here and the snails were clustered under the plants that grew out of some of the cracks. They were not as frequent here as on the Borghese Balustrade, but nevertheless were considered to represent a viable population. Snails were also present on the house-facing

north aspect of the balustrade along the terrace, but none was seen on the south face of the house itself. We did find



some live snails on the north and west faces of the pavilion at the west end of the terrace, and also a few on the west and east sides of the house: there were no crevices at all here, and the shells were very prominent against the smooth walls. Snail frequency declined sharply with increasing distance from the Borghese Balustrade. We could find no snails on the free-standing statuary and urns elsewhere in the



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- garden. It appears, therefore, that the snails were introduced to Cliveden from Rome on the Borahese Balustrade in 1896. They have established a thriving colony on the balustrade itself, but in over 100 years they have spread only very slowly, and only in the direction of the house.
- Papillifera papillaris appears to have expanded out of its original distribution range in the central coastal Mediterranean area through its association with man, or rather, its association with the building and ornamental stone that man has exported to other regions. Clausiliids have very limited powers of dispersal, as is evidenced by the virtual restriction of *P. papillaris* to its balustrade at Cliveden. Wherever it is found outside its original range, it appears to be associated with human occupation, from the importation of marble from Rome to help build Constantinople during the reign of Constantine the Great around AD 330 (Örstan, 2006) to the introduction of garden ornaments to the Garrison Library Gardens in Gibraltar (Menez, 2007) and, indeed, to Cliveden in the 19th century. So limited are its powers of dispersal from these points of introduction, that Örstan (2006) has suggested that a chronology of the dispersion of P. papillaris might be constructed using the known ages of the buildings where it has so far been found.

As a result of this method of dispersal, the known distribution of Papillifera papillaris is discontinuous. However, until its discovery at Cliveden, it still appeared to be restricted to the Mediterranean region. Apart from its homeland in mainland Italy and the islands of Corsica, Sardinia, Sicily and Malta, it has been recorded, as an anthropogenic introduction, in mainland France, Spain, North Africa. Greece and Turkey (Mienis and Gümüs. 2007). The discovery of a 100-year-old colony in southeast England represents a big jump from the Mediterranean: are there any other as yet undiscovered colonies in the intervening area, and in Britain itself? A close examination of garden statuary elsewhere may well prove productive.

Meanwhile, the National Trust has been appraised of the presence of this attractive little snail in their property at Cliveden, and it is to be hoped that this colony will be conserved for the future, especially with regard to the

> impending restoration of the Borghese Balustrade. Although global warming is likely to be beneficial to the snail here, at the very far north of its range, because of its limited powers of dispersal it will remain vulnerable. What is amazing is that this colony has already survived in Britain for over 100 years and that, despite the thousands of people who visit Cliveden every year, it had not previously been recorded. Go and look at it, but please, if you must, take

only dead shells from the foot of the balustrade. It would be a shame if this colony was to be inadvertently destroyed through the unwelcome attention of shell collectors before its future at Cliveden can be assured.

Finally, it should be noted that the nomenclature of Papillifera papillaris is being contested: several authors have advocated the use of the name *Papillifera bidens* (Linnaeus, 1758) for the same species and an application to the International Commission on Zoological Nomenclature to conserve Müller's name has not yet been resolved (Mienis and Gümüs, 2007). Watch this space!

Acknowledgements

My thanks are due to Tom Sutton for drawing my attention to this snail in the first place, to Geraldine Holyoak for confirming my identification, and to Tom Walker for taking me to Cliveden so that I could see it for myself.

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Photo captions

- The Borghese Balustrade at Cliveden
- 2 One of the brickwork panels of the Borghese
- Balustrade
- Papillifera papillaris in a crevice in the brickwork. Cliveden House from the south, showing the Borghese
- Balustrade and the steps leading up to the terrace.

Photos: Tom Walker

Balea heydeni in Sussex Robert Cameron

In mid June 2007, I went to the Kingley Vale National Nature Reserve in W. Sussex to help my wife. Dr Margaret Redfern, make her annual samples of the Yew Gall Midge, which she has been doing ever since 1966! This year, the weather had been very wet, and indeed, we got slightly rained on while sampling. One of the galls she collected had a juvenile Balea crawling on it. So I started looking on the trunks and branches of the Yew trees for which Kingley Vale is famous. It soon became obvious that there were lots of Balea, and that they were all the newly recognised B. heydeni.

Most were on yew, a few on hawthorn, whitebeam and ash, none on cherry. Of course, I could not climb the trees, but most were on live branches, still wet, and on the upper sides of more-or-less horizontal branches, not on the main trunks, nor on dead and partly rotten branches. Most were at least a metre above ground level. Some isolated clumps of yew appeared not to have any.

Obviously, the weather was just right to find active animals, and some trees held dozens of individuals in just a superficial search (given that this is a Nature Reserve, I left them undisturbed). Given the size of the yew woods, there must be at least tens of thousands in the Reserve. The yew woods themselves have virtually no vegetation under the trees, and very high densities of rabbits and deer have kept the whole place very open. Despite the ideal weather, the only other species I saw alive and active were Lehmannia marginata (also on the trees), and a single *Pomatias elegans* on the ground. It is often claimed that *Balea* often occurs in places where other snails are scarce; my observation tends to confirm that.

All old records refer to B. perversa (agg). Nearly 30 years

ago. David Holyoak (Journal of Conchology, 29: 319-323, 1978) showed how urban pollution affected Balea in E. Sussex. Kingley Vale is not in the lee of any major source of pollution, and it certainly has large numbers today. Yew trees are not the obvious place to look for snails, but anyone who knows of places where there are many yews might well inspect them closely in wet weather.



Photo credit: Robert Cameron Photo Balea specimens from UK: Robert Cameron.

The Holyoak-Seddon Collection at National Museum Wales, has material used by Holyoak (1978). A recent review of these following the publication in Journal of Conchology, showed that all of the Sussex populations were B. heydeni, not perversa. MB Seddon

Snailing in western Bulgaria

Peter Topley email: topley@ntlworld.com

A holiday to Bulgaria as a participant in an organized botanical tour of the western mountain regions in June 2005 offered me my first encounter with the land snails of this important region. The areas visited were the Vitosha, Rila, Pirin and Rhodope mountain areas together with brief visits to other sites en route. These regions contain a high number of recorded endemic terrestrial mollusc species, with between 6 and 14 species for each. Identification was difficult for many species due to the lack of easily obtainable identification guides so there is a caveat that the species names offered here are from identifications made to the best of my ability, however I would welcome any feedback or comments from those who have a more expert knowledge of the fauna of the Balkan area.

My first two nights were spent at a hotel in the Vitosha mountain national park. This is a forested area with areas of higher alpine meadows and bog well known for its endemic plants together with a viable population of both wolves and brown bears. My first encounter however was with a colony of particularly fine live specimens of a much smaller species, the "Bulin", Ena montana (Drap. 1801) [Figure 1] under mossy leaf litter near a path at the edge of the forest at c.1800m. The path opened out to higher damp alpine meadows with streams and granite boulders. The temperature must have been not much above freezing since there were signs of melting pockets of snow. Underneath the overhang of one of these boulders a number of small clausiliids, possibly *Clausilia* pumila C. Pfeiffer, 1828, were aestivating. Two forms of another member of the Enidae, Chondrula tridens (O.F. Muller, 1774), were found at less acidic locations a few miles away; the typical form under

with a thickened lip (possibly the stems of Hemlock (Conium of Naroden Park in the Rila

Next followed two days staying in the area of the Pirin Mountains National Park. This area of Bulgaria is very varied, with over 100 high peaks at over 2000 metres, alpine meadows dotted with over 80 glacial lakes, forested hillsides and valleys and exposed cliff faces. Both limestone and acidic rocks are exposed. The more obvious snails once again included *Helix pomatia* but there were also the large elongate-ovoid, blunttipped and black striped shells of Zebrina detrita (Muller, 1774), particularly common on a limestone cliff next to a path above the Banderitsa mountain chalet at c.1900m. In this same area, beneath small limestone boulders were

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hawthorn bushes in a meadow by the road at Dregaletsy village south of Sophia and a larger more robust form subspecies albolimbata (L. Pfeiffer, 1859)) under limestone boulders beneath an oak tree in fields above Bosnek village. In a ditch by a road near the hotel typical forms of the Roman Snail Helix pomatia (L.1758) were common as well as attractive specimens of Arianta aethiops (Bielz, 1867) [Figure 2] with glossy greenish brown shells. On the journey south from this area, in a field c. 40km south of Sophia (N42º 24.231 E23º 07.551), aestivating in a well and on *maculatum*) were both adult and juvenile specimens of the large Helicid Helix lucorum (L.1758) [Figure 3] together with many Monacha cartusiana (Muller, 1774) on grasses and herbs. A brief visit to the forests mountains above Rila Monastery (N42º 09.34 E22º 24.26) yielded a vitrinid with a compressed auriculate shell (probably Eucobresia diaphana (Drap., 1805) [Figure 4] under damp logs by a forested stream.













specimens of a disc-like Lindholmiola (possibly the local Lindholmiola contorta pirinensis Jaeckel 1954). Abundant by rocks on an exposed bend in the road were shells of a small *Helicella* species. Under small boulders near our hotel were specimens of Oxychilus glaber (Rossmassler, 1835) and the more familiar O. draparnaudi (Beck, 1837). On the journey south from this area, a stop at a field discovered a large Cepaea, C. vindobonensis (Ferussac, 1821) [Figure 5], aestivating on flower and grass stems whilst black storks (Ciconia nigra) flew overhead.

The final destination on this tour was the Rhodope mountain region, close to the border with Greece. The hotel was in the mountain resort of Pamporovo, an area which is now sadly being developed at a rapid rate for the growing winter sports holiday industry however the stay here yielded some interesting species and included a trip to the spectacular limestone gorge of Trigrad. Species found in localities near Pamporovo included Truncatellina cylindrica (Ferussac, 1807) common in loose soil on an east facing limestone cliff; Zonitoides nitidus (O.F. Muller, 1774) in a marshy area by a water seepage at the bottom of a spectacular orchid field and Helicella obvia (Menke, 1828) on *Verbascum* in a road layby. Finally the Trigrad Gorge area yielded the most varied and interesting species of the trip. Helicids included a pale, thin walled, variety of *Helix pomatia* (probably var. tenuis Baudon 1884) [Figure 6] that was common on vegetation at the base of the cliff whilst the large depressed glossy and striped snails Helicigona rumelica balconica Kobelt [Figure 7] were common under leaves and in cracks of the limestone cliffs; Perforatella (Monachoides) incarnata (O.F.Muller, 1774) and Euomphalia strigella (Drap, 1801) were also found. Clausiliids, mostly in leaf litter, included large Macedonica fraudenfeldi (Rossmassler, 1856), Macrogastra ventricosa (Drap., 1801) [Figure 8] and Lacinaria plicata (Drap. 1801) [Figure 9]. Also in leaf litter was a second Lindholmiola species, this time L. girva (Frivaldszky,

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1835) [Figure 10] which has distinct hairs and in the Rhodopi region grows to a shell diameter of 14mm. On shaded parts of the cliff were small dark Chondrina clienta (Westerlund, 1883). Finally in an area to the south of the gorge, right on the border with Greece (we knew this because here we were "trailed" by a car of Bulgarian border police!), in the cracks of a small limestone outcrop at N41º 34.492 E24º 24.290, was a colony of the elegant striped cylindrically fusiform snails *Chondrus* zebra tantalus (Pfeiffer, 1868).

Although this was not specifically a conchologically based trip, this vacation gave me an introduction to the molluscan fauna (and other flora and fauna) of this fascinating area and I would recommend a visit to anyone wishing to explore the species present in this part of the Balkans.

Acknowledgements

I would like to thank Alan Outen for his informative leadership of this tour and for passing on details of site coordinates and also to Dimitar (Mitko) Stofanov of Sophia Natural History Museum for information on local habitats and species.

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Marine **Recorder's** Report 2006

Jan Light March 2007

Data policy for records

In recent years the biological records collected by volunteers as part of the Society's Marine Census have become a valuable source of information to help formulate conservation policies and provide evidence to support conservation measures or planning issues. In this way records have acquired a value and with this has come the need for a data policy which is a statement of what the data holder (in our case the Conchological Society) intends to do with the data it holds. Because our data have been provided by a range of organisations and individuals (many of whom are members of this Society), it is important that those providing data are clear about what the Society intends to do with their records and are happy with that arrangement. At the Review meeting held in November last year it was agreed that all validated records of all marine species held by the Society will be made freely available. This is an important milestone in the willingness of this Society to engage with conservation organisations and other recording bodies as well as the wider public. However it is important that giving wider access should be carried out with the agreement of the providers. To this end anyone who has submitted records to the Marine Census will receive a letter from the President asking for that permission. I hope that those of you who have passed your records to our Marine scheme see the advantages of making data freely available and give your consent.

Society's marine computer database in Recorder 6

During the year the database received some important datasets. The full set of marine records of the late Robbie Meiklejohn who was Sea Area rep for Sutherland (S2) for many years and who recorded all along the north coast of the Scottish mainland have been incorporated. Furthermore Tom Clifton who is Sea Area Rep for S23 and 24 and is beginning to turn his attention to S22 Cardigan Bay has keyed a very substantial tranche of his records going back to

UK Biodiversity Action Plan (BAP) and **Nationally Important Marine Features** (NIMF) Review

Although the UK BAP Review of nonmarine species is now complete, the complementary exercise for marine species has lagged behind. In March consultative documents were sent to Julia Nunn and myself by MarLIN, who were contracted by the UK BAP Marine Review Group to set the ball rolling after an unsuccessful first attempt in 2005 to initiate the process. Our brief was twofold: in the first instance we were required to carry out an overview of the whole taxonomic group, in this case the marine molluscs listed in the Species Directory of Marine Fauna and Flora of the British Isles and surrounding seas, by annotating, under broad criteria, the full list. A second task was to revisit the species currently included in the BAP priority lists and make proposals for additional species to be considered. With a submission deadline of four weeks this process was necessarily expedited by working in collaboration, and consulting widely, with Society members and others known to have knowledge of specific species, or groups of taxa. A list of consultees will be published with a final report of this process in due course but in the meantime all contributors to that first exercise are thanked for responding promptly to our requests for information.

Julia Nunn continues to report updated (post 1990) records from Irish Sea Areas: from S28 (Lomanotus genei, Doto millbayana, Tapes aureus) and from S37 (Otina ovata). Amongst 13 updated records from S29A, she highlights two species new to that area, namely *Epitonium* clathrus and Doto koenneckeri. Live records of the former have always been scant and I suspect few members have seen the living animal. Equally, *D. koenneckeri* will be unfamiliar to many, only recently having been recognised (described by Lemche in 1976), but being widely distributed between Spain and Scotland. I am grateful to Bernard Picton for allowing images of both these molluscs to be published with this report.

1980. In addition record cards submitted during the year have been uploaded. As a result, the number of records in the computer database stood at 99,000 at the year end, a doubling of the total at the end of 2005. There is however a long way to go still and we would welcome any volunteers who would like to learn to use Recorder 6 and assist with record uploading.

Noteworthy records

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The trochids Osilinus lineatus and Gibbula umbilicalis reach their northern distributional limits in the British Isles and Ireland. Mike Kendall spoke to this Society in January about analysis of data from sites surveyed between 1970s and 1980s, as well as resurveys from the same locations in 2002 and 2004 and demonstrated range extensions and increases in abundances, attributed to global warming. During 2006 Tom Clifton reported northward movement on Anglesey shores, coupled with increase in population size, for Osilinus, which now occurs, rarely and for the first time, on southwest shores of Great Orme in Liverpool Bay. In the eastern English Channel Gibbula umbilicalis has been reported living at Shakespeare Beach, Folkestone (TR 275384 16.7.06, Celia Pain and John Llewellyn-Jones). This species has also been reported from sites in Kent round to St Margaret's Bay by local recorders working with Kent Wildlife Trust but these records need to be confirmed against voucher specimens. Also from the Folkestone area, Crassostrea gigas is now living on rocks in the intertidal. These pioneer individuals are believed to have migrated from the Whitstable beds, rather than from the French coasts.

Atrina fragilis: a fisherman in Guernsey took an individual in a commercial catch from 54 fathoms somewhere south-east of Sark to the east of the Longue Bank. This information was submitted by Richard Lord who advises that the fisherman sees about four of these fan mussels per year.

Records of Pelagic species

Sepia orbigniana cuttlebones were reported by Julia

Hatcher from Kimmeridge Marine Centre and confirmed; this is new to S16. Sepia elegans was reported by Lynda Thyer from Thorness Bay, Isle of Wight in August; this is new to S15.

The prolonged southwesterly storms late in the year led to mass strandings of *Velella* on the western seaboard of the British Isles from Guernsey to Anglesey. Only in Cornwall were Janthina reported as associates of the beachings: at Sennen, Padstow, Perranporth, and Porthcoan, with the rarely recorded J. pallida occurring as a single, and as five individuals at the two latter sites respectively.

Another product of rough weather is the beaching of large pieces of timber. Often these are coated in goose barnacles but they are also often riddled with shipworm tubes. Tom Clifton has retrieved specimens of the following from timber retrieved from beaches in Anglesey: Teredo navalis, Psiloteredo megotara and Teredora malleolus. These two latter species are new Sea Area records, S23. Voucher material for all these species has been submitted.

The successful field meeting to Anglesey in April resulted in shell records new to the area for Ebala nitidissima, Epilepton clarkei, Rissoella opalina, Jordaniella nivosa, Ondina diaphana and Neolepton sulcatulum. These resulted from routine survey work. However several of the records highlighted in this report arise from serendipitous finds of pelagic species. Giving close attention to beached agents of transport such as timber, in order to look for rarely recorded, unfamiliar species which are often overlooked, is a welcome development. It is always exciting to make new finds and add to personal reference collections. It should also be stressed that more routine fieldwork, surveying and resurveying well-worked sites as well as new ones is just as important and members are urged to keep the momentum of field recording alive in the Society.

In addition to those mentioned above I thank Adrian Norris and Terry Wimbleton for compilations of records from Yorkshire, Kimmeridge Dorset and Gosport Hants. I also thank Mike Weideli and Celia Pain for the considerable assistance they have given over the past year in supporting marine recording in the Society. All the records mentioned in this report are new information to the Society's Marine Census.

- 1 The common wentletrap, Epitonium clathrus, feeding on a sea anemone.
- 2 The host food for *Doto koenneckerion* is the hydroid Aglaophenia pluma

Photos Bernard Picton.

Mass Stranding of Lutraria Iutraria at Abergele Tom Clifton



A mass stranding of Lutraria lutraria occurred at Abergele on Many of these had managed to reburrow into the wet sand the North Wales Coast during March 2007. This was and appeared to be quite active. Although they were in an brought about by the severe northerly gales in March area that will be covered by seawater on every tide, they coinciding with the abnormally low tide, -0.7 ft. The were still too far up the shoreline for this species, and being stranding involved many thousands of adult Lutraria lutraria in an area that will be trampled during the holiday season, being deposited on the upper drift line, which occurred on a their chance of survival is probably limited. major shingle bank for a distance of several hundred metres Amongst the Lutraria lutraria, there were a number of Ensis siliqua which were also live and frequent and one specimen of Acanthocardia echinata. Shells of Lutraria occur regularly on northwest shores ranging from occasional to frequent; a stranding of live adults however is unprecedented. The pictures were taken on 24/3/07, the stranding occurred a day or two earlier.

SH947789. The shingle bank slopes steeply onto the flat, wet sandy shore, which in turn extends for 150m to the lower shore level. The specimens on the upper drift line were mainly dead, but at the bottom of the shingle bank and up to a sea breaker, was a large area 12m across of live adult Lutraria lutraria.

FIELD MEETINg

Stoke Wood, April 2007

Stoke Wood is an ancient woodland, dominated by ash *Clausilia bidentata, Trochulus hispida, Cepea nemoralis* and Arianta arbustorum (both albino and regular forms). After a break for lunch we sampled further along the stream bed (resulting in several wet feet!). The streambed was full of limestone that had been washed downstream, containing fossilised scallops and oysters. The species we found (Arion distinctus, Arion subfuscus, Arion ater agg., Deroceras reticulatum, Oxychilus cellarius, Oxychilus alliarus, Aegopinella nitidula, Discus rotundatus, Euconulus cf. fulvus seg., Cochlodina laminata, Clausilia bidentata, Trochulus hispida, Trochulus striolata and Arianta arbustorum) were remarkably similar to the species found at the previous site. We also checked the north edge of the wood, where the only species we hadn't found previously was Acanthinula aculeata. Rosemary also took a leaf litter sample, which was found to contain Cepea hortensis, Arianta arbustorum, Clausilia bidentata, Cochlodina laminata, Cochlicopa cf. lubrica, Aegopinella nitidula, Columella edentula and Columella aspera. Then we called it a day, stopping to photograph the hazy

but also containing oak, birch, hazel and crab apples. The wood has a rich diversity of flora, including the beautiful orchid Orchis mascula, Ladies Smock, Meadowsweet and bluebells, all of which were flowering when we visited. However, many of these species are threatened by deer allowed in by hunters. The wood is managed by The Woodland Trust and contains both actively coppiced and old growth areas. Our group, comprising Rosemary Hill, Ron Boyce, Caitlin Potter and James Potter met at Market Harborough Train Station, before meeting up with the forest's warden at the wood's car park. The day was bright and sunny throughout with low humidity, the tail end of the driest April on record. In short conditions likely to encourage most land molluscs to keep a low profile. We began near a stream running through the wood, as everywhere else was parched. We found Columella edentula at grid reference WP 438 SP 80334/85937, as well as Cochlicopa cf. lubricella, Cochlicopa cf lubrica, Arion subfuscus, Arion ater agg, Arion distinctus, Oxychilus alliarius, patchwork of yellow and green rolling over the horizon. Aegopinella pura, Aegopinella nitidula, Vitrea crystallina,



Caitlin and James Potter

The Pupuharakeke or New Zealand Native Flax Snail

The Pupuharakeke and the Treaty of Waitangi

Adrian Norris

The Treaty of Waitangi was signed by William Hobson as Queen Victoria's representative for the British and approximately 45 Maori chiefs, men and women on February 6th, 1840. According to The Rough Guide to New Zealand, the Treaty states – The Queen guarantees the chiefs the "full exclusive

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and undisturbed possession of their Lands and Estates Forests and other properties which they may collectively or individually possess" This was expressed in English in terms of individual rights over property. Thus even though the land was sold or transferred out of the hands of the Maori people, they still felt that they had guaranteed a collective right to the land and its traditional resources under the terms of the treaty. This mis-translation, or misunderstanding, has resulted in a large number of recent and current claims to the Waitangi Tribunal.

One of these claims is over the remaining populations of the Native Flax Snail, Pupuharakeke.

The Native Flax Snails, or Pupuharakeke, had a special role (as a kaitiaki or guardian) within the traditions of the indigenous lwi (or Maori communities) of New Zealand. Tradition amongst the people of the Northland states that the Flax Snails alerted the villagers to the presence of all approaching people and in particular, war parties.

The Flax Snail is said to feed on, and climb, the leaves of the Native Flax, *Linum* species. Historically they occurred in fairly large numbers in some areas of the Northland. Sensitive to vibration, the Pupuharakeke react to any disturbance in an area by retreating into their shells. The sound of hundreds of receding snails thus alerted the local people to the presence of visitors or, indeed potential threats.

Two species, *Placostylus ambagiosus* Suter, 1906 and *Placostylus bollonsi* Suter, 1908, and numerous subspecies, at least five of which are now thought to be extinct, have been recorded from New Zealand.

I would like to thank the Director of the Whangarei Museum & Heritage Park, Linda Wigley, and in particular Jade Baker, for all their help in establishing the true story behind the Pupuharakeke claim.

Photo: Large numbers of old dead shells of *Placostylus ambagiosus* Suter, 1906 occur in museum collections in New Zealand.

© Photographs reproduced by kind permission of Linda Wigley Director Whangarei Museum & Heritage Park, North Island, New Zealand

Pupilla muscorum under review

At the World Malacological Congress Ted von Prosovitch and colleagues presented a poster on the highly variable species Pupilla muscorum. They examined morphlogy, ecology and molecular data (COI & CytB) on populations from Scandinavia, Germany and Poland. In the past these were considered two species (muscorum and *alpicola*) and one ecophenotype (var. pratensis). Their new data shows that three forms were closely related, but distinct and that they should all be considered species. Once the full data has been published, we will be able to review the UK populations to see if any of the northern calcareous fen populations match *P. pratensis* (Clessin, 1871).

von Prosovitch, T., Schander, C. Jueg, U. & Thorkildsen, T. (2007) *Pupilla pratensis* (Clessin, 1871) a distinct species in the form group of Pupilla muscorum. Abtracts of the World Congress of Malacology, 2007. Eds K. Jordaens et al. pp. 235-6.

Plans for River Lune Mussels

This population of the freshwater pearl mussel has been unable to successfully reproduce for more than 30 years, putting the colony at risk, as there were only 80 adults left. Individiduals have been removed from the population and taken to a secret location in Cumbria. The Environment Agency has set-up a ex-situ breeding programme, which has now successfully produced more than 2,500 pearl mussels from this population. Nicola Barnforth from the Environment Agency's biodiversity programme said "We hope to rear the juveniles until they are about five years old. At this point we can return them to a suitable part of the River Lune so the population can once again become self-sustaining. If we had not intervened and removed the mussels for they would have very soon become extinct in Lancashire."

http://news.bbc.co.uk/1/hi/england/ 6927449.stm

Are litter snails rare this year?

David Long

Is it just me or is it becoming harder to find small snails like *Carychium, Euconulus, Acanthinula, Punctum*, and perhaps *Vitrea* spp and *Aegopinella pura* when sieving litter in the field in June? Perhaps this year it is simply a hangover from the dry Spring. Quick checks at Siccaridge Wood (SO/93-03-) and the adjacent disused canal on 6, 11 and 13 June, and at Highnam Wood (SO/77-19-) failed to produce *Carychium*. I don't think that this is entirely due to my eyesight. In most cases there was no sign of shells in the litter, or many other invertebrates for that matter.

Does the Conchological Society hold data from reasonably thorough repeated recording from the same site extending over 10 years or more?

Zenobiella subrufescens: not just a old woodland species?

David Long

Over the last decade or so I have been very interested in where *Zenobiella subrufescens* is to be found. There were the expected sites like bramble patches in woodland rides and on the trunks and leaves of deciduous trees and understories like hazel. Then Keith Alexander found it on Yew at the Gloucestershire Wildlife Trust Reserve at Ban-y-Gor on the lower Wye, and there were later finds (Conchologists' Newsletter 147:103, December 1998 and Conchologists' Newsletter 151: 266 December 1999). Since then there have been more finds in the Cotswolds, Forest of Dean and west Worcestershire (*Mollusc World* **11**: 19 July 2006).

An arachnologist friend and a coleopterist friend and I were recording on two Gloucestershire Wildlife Trust reserves near Sapperton (SO/90) on 11 June. *Z subrufescens* turned up in their investigations on Wild Rose, Yew and under Hartstongue fern at the first site, and on Yew and/or Holly and Wild Rose or Hawthorn at a woodland edge at the second.

In this area ("Mid-West"?) it certainly seems to like fairly wild places but it is not exclusive to old woodland. And it is certainly very much a climber.

Has anyone else had similar experiences?

Due to many changes in the nomenclature and additions to the British list of non-marine mollusca, a new recording card is being developed. In order to establish the requirements of our membership, I have produced two different recording forms which can be downloaded from the Society's website, (see below). One is in alphabetical order, whilst the other follows Anderson's list, with some amendments following the publication of Ruud Bank's paper in *Heldia*. (Ruud, A. Bank, Gerhard Falkner & Ted von Proschwitz, CLECOM-PROIECT A revised checklist of the non-marine Mollusca of Great Britain and Ireland. Heldia 5(3):41-72 München. May 2007). The recording forms are downloadable at A4 size, which is much easier to read if you have difficulty reading small type-faces. A photocopier can then be used to reduce the sheets to A5 so that two forms will fit side by side on A4 paper, if required. Please make as many copies as you require. If, however, you wish to print on both sides to save paper, please try to ensure that only records from the same 10-kilometre square are placed on each sheet, so as to facilitate the filing of the hard-copy records. Filled-in sheets should be returned to me at the address below.

Once we have established which of the two recording forms our members favour, we may look into printing then on card, if this is preferred by our members. We would very much appreciate feedback after the recording form has been used for a period.

Please try to ensure that all records are produced to at least a 4-figure grid reference (1-kilometre square).

In order to establish a more historic base to the records, I am looking for volunteers who are willing to go through old records and publications to extract information on previously published sites. Most of these old records will lack a grid reference so it is important that the person extracting the information knows the area well in order that an accurate 4-figure grid reference can be established if possible, although a 10-kilometre will be accepted if this proves too difficult. I am unable to accept any records which cannot be placed within at least a 10kilometre square.

For further details, updates and access to the downloadable forms please go to the Society's website http://www.conchsoc.org/ and then to Recording Schemes Non-marine.

Adrian Norris

Non-Marine Recorder 17 West Park Drive, Leeds, LS16 5BL e-mail AdrianXNorris@aol.com

N-MARINE

Report of Nonmarine Recording activity, 2006.

Jan Light March 2007

During 2006, at the request of Council, I agreed to act as Non-marine Recorder in a temporary capacity following the resignation of Geraldine Holyoak and pending appointment of a successor. My brief was to collate and hold record submissions, respond to pertinent enquiries and where necessary refer material requiring verification to an appropriate expert. I do not hold the recent (last 7 years) Society archive relating to Non-marine recording which was held by my predecessor in Cornwall. During the year Robert Cameron visited the Conchological Society non-marine archive in the Mollusca section of the Natural History Museum (NHM) for research purposes and whilst there, checked and itemised current holdings as follows:

- 1. A set of card drawers with all the standard record cards sent in to Michael Kerney or made by him from fieldwork or chasing up records until 1998. These are arranged by 100 km square, and within each by 10 km squares. These drawers also have a separate set of pre-1950 records. There is, however no "master card" for each 10km square with all records on it. One would have to use the Atlas, or the records in NBN, to get that, or do it by hand from the cards from that square. All cards post 1998 are currently stored by Geraldine Holyoak, pending the appointment of a new non-marine recorder. There was a separate box of Cornish cards, with a note from Geraldine Holyoak saying she had returned them, presumably after digitisation.
- 2. A set of the individual rare species record cards (pink), but with no post 1998 records. It is not clear if these represented all the records. Some annotations on these cards require clarification. All pink cards post 1998 are currently stored by Geraldine Holyoak, pending the appointment of a new non-marine recorder.
- 3. There is a filing cabinet with correspondence relating to the scheme (in alphabetical order). The latest correspondence dates to 2000.

We can conclude that the archive is intact, and in good order. The last seven years' worth of records will be returned to the Society when the new Non-marine Recorder has been appointed.

During the year I received records from Ron Boyce, Robert Cameron, Barry Colville, Rosemary Hill, David Long, Adrian Sumner and Peter Topley. All these contributors are thanked, and their records are being held in a file ready for further processing when a new Recorder is appointed.

An unusual sighting of Eobania vermiculata was made at Lewisham railway station by David Notton of NHM and reported in Mollusc World 11, July 2006.

The following await confirmation that they are new Vice County records:

Mid-west Yorkshire (64) Hygromia cinctella. On 23 September at a meeting of the Yorkshire Naturalists' Union 3 specimens were found by Leeds & Liverpool Canal (SE 27381 34255. Four days a later a further search at the same locality produced a further three specimens, submitted by Adrian Norris.

Roxburghshire (80) Vertigo pusilla, from Newton St Boswells SSSI, Roxburghshire (NT 581318). Confirmed by Barry Colville. Found on joint Conch Soc/Scottish Borders Biological Records Centre field meeting, 4th June 2006, submitted by Adrian Sumner.

East Lothian (82) Euconulus alderi, from a dried-up curling pond at Dunbar, East Lothian (NT 679781) VC82, submitted by Adrian Sumner.

Midlothian (83) Succinea putris NT 232712 Union Canal, Edinburgh 29.06.2006, submitted by Adrian Sumner. Clare (H9) Vertigo moulinsiana One fresh juvenile shell from flood debris, Mullaghmore, Co. Clare, (R310946) 15.07.2006. Submitted by Robert Cameron.

Gittenberger, Preece & Ripken (Journal of Conchology 39 (2) 2006) have shown that *Balea heydeni* is a distinct species and may occur sympatrically with *B. perversa*. On this basis the species has been recognised from several localities in Britain and Ireland and this will result in a number of new Vice County records.

During the year, I received record cards, dating back over several years, from John Llewellyn Jones for Assiminea grayana in Essex. A number of the sites appear to be new, although within the known distributional range for the species in eastern England. However, Barry Colville has notified a site in VC69 at some considerable distance from the 'nearest' sites in the Humber for Assiminea grayana. The species was found by novices during a field meeting led by Barry to Roudsee Wood NNR at Haverthwaite. On saltmarsh associated with mixed woodland, Assiminea was found along a tract 1.5km in length on the southeast side of the River Leven estuary in a zone 30m wide and bounded on one margin by flotsam at EHM. Abundances of the snail varied, but in areas of optimum habitat, it was observed to be present in thousands.

As with other records submitted which demonstrate northward extensions, this would appear to be yet more evidence of the effects of global warming.

Diary of Meetings - Conchological Society

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

IMPo RTANT: 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 0794 109 4395 on the day of the meeting for information on the location of the field site being surveyed.

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

The Programme Secretary will be happy to receive any offers to lead field meetings or suggestions for speakers for indoor meetings.

Key to meetings:		
NHM	=	Natural History Museum, London indoor meeting
FIELD	=	Field Meeting at outdoor location
WKSHP	=	Workshop on Molluscan topic
YCS	=	Yorkshire Conch. Soc. events

YCS - Saturday 1 September Squares SE 36 and SE 46, Boroughbridge area. Contact: David Lindley (0113 2697047) (home), david.lindlev3@ btinternet.com

Meet at 10:30h in the town centre car park as signposted, grid ref. SE 398667.

INDooR - Saturday 8 September: Museum of Scotland, Chambers Street. Edinburgh 10:00h in the Dunfermline Room

Man and Molluscs: Diversity and Commercial Uses of Molluscs Joint meeting with National **Museums Scotland**

Topics will include: nonmarine molluscs in Scotland (Adrian Sumner); marine biodiversity (speaker to be confirmed), marine bivalves and climate change (Gill Andrew); molluscs - fossils and extant (Claire Pannell); freshwater pearl mussels (Peter Cosgrove); commercial exploitation of molluscs for decorative purposes; history of mollusc exploitation for food, and alien invaders and conservation (speakers to be confirmed).

For further details and registration please contact Dr Claire L. Pannell (C.Pannell@nms.ac.uk)

FIELD - Sunday 9 September house, 66 High Street, Pease Dean, Berwickshire. Beckingham, Joint meeting with National Nottinghamshire DN10 4PF, SK 778903, at 10:30h. Museums Scotland Leader: Adrian Sumner (01620 894640) (home) The sites to be surveyed

Pease Dean is a Scottish Wildlife Trust reserve. It is a deep wooded valley on the east coast of Scotland, and includes some ancient woodland. It is therefore likely to be home to a number of specialist

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woodland species, such as Limax cinereoniger and Spermodea lamellata, although the molluscan fauna of the reserve is not well recorded. There may also be an opportunity to examine marine species at the adjacent Pease Bay in the morning (high tide is in the afternoon).

Meet at the car park at the Pease Bay caravan site at 11:00h (NT 794706). To reach this, turn off the A1 at the roundabout at NT 775719 and take the minor road to Pease Bay. We expect to be able to provide transport from Edinburgh in a minibus, leaving from outside the Museum of Scotland in Chambers Street at 10:15h. Please let Dr Claire L. Pannell know in advance if

you would like to travel in the minibus (c.pannell@nms.ac.uk). FIELD - Saturday

15 September North Nottinghamshire, under-recorded area. Leader: Chris du Feu (01427 848400) (home)

Meet at Chris du Feu's

are Morton Tongue SK 8091. Beckingham Marsh SK 7989 and Beckingham Wood SK 7589.

Morton Tongue is River Trent floodland, currently developing into willow growth. The area will be subject to environmental

enhancement measures next year. This survey can act as a baseline survey. There is also a meadow which is intended to be restored to a traditional wet grazing meadow. This is also in the Trent flood plain on the landward side of the flood bank and is subject to flooding only occasionally (the last flood event was in 2000).

Beckingham Marsh forms part of an RSPB reserve which is being restored to damp grazing meadow from its recent use primarily as arable farmland. RSPB has been managing the area for over a year but the damp grass regime is not yet established. Also in the plots are the former willow works and the remains of farm buildings (locally known as Frog Hall because of its rather damp surroundings). This survey can, again, act as a baseline survey.

Beckingham Wood is ancient woodland which has not been subject to detailed mollusc survey.

All these sites are within the Beckingham parish boundary so that little time will be spent moving between sites. We will be able to have a midday break at Chris's house (where it would be useful to look in the garden to see what lurks there too).

NHM – Saturday 6 October

14:30h in the Demonstration Room. We welcome as Guest