

on how shells spread. Some families present on Lord Howe Island show high diversity and share many species with the Queensland coast, the Barrier Reef and New Caledonia. These clearly have no problem colonising distant islands provided suitable habitats are available. Others, however, show much lower diversity, and many of the species in these families are found nowhere else. These families are presumably less good at colonising distant islands, probably because their larvae settle more rapidly.

FIELD - Wednesday 8 September - Sunday 11 September 2010 [provisional]

Isles of Scilly
Marine meeting. Joint meeting with the Porcupine Marine Natural History Society
Co-ordination and contact for details:
Andy Mackie <Andy.Mackie@museumwales.ac.uk>

This is advance information on a proposed joint meeting with Porcupine in the Scillies. The entire meeting is expected to run from

Monday 6 September until Monday 13 September, but the best tides for shore work are 8 - 11 September.

Accommodation on the Scillies in very short supply, so if you are planning to attend this meeting, early booking of your accommodation is vital.

The Malocological Society of London

Molluscan Forum

Thursday 12 November 2009, 10.00am - 6.30pm, Natural History Museum, London
An annual meeting designed to bring together people starting their research on molluscs, to give them the opportunity to present and discuss their work and to compare notes on methods and problems.
For further details contact: Prof. Mark Davies, Fleming Building, University of Sunderland, Sunderland, SR1 3SD, UK. Telephone UK (44) + 191 515 2517
mark.davies@sunderland.ac.uk

BOOKSELLER'S ADVERTISEMENT

I buy, sell & exchange new, secondhand & antiquarian items (books, periodicals & reprints/offprints/separates) on recent & fossil Mollusca. Large stock, with new material coming in on a regular basis, representing a wide variety of subjects, periods, authors & prices. Regular e-mail-lists available, offering the most recent new publications.

Website: <http://www.xs4all.nl/~anvdbijl/welcome.html>

Contact: A.N. van der Bijl, Burgemeester van Bruggenstraat 41, 1165 NV Halfweg, The Netherlands, anvdbijl@xs4all.nl

For Sale

A collection of tropical shells (5,500+ specimens)

Most families represented and most areas represented. Particularly strong on Sri Lankan shells, where the owner formerly lived.

(3 *Harpulina arausiaca*, c.10 *Marginella brinkae*, c.10 *M.verrauxi*, 4 *Conus abbas* etc.) though all beach collected and condition corresponding. Incorporates large 'old' collection (c1890 - 1920) with many smaller species and numerous multiples (e.g. 8 *Oliva porphyraia*). All largely unidentified and without data. Also incorporates smaller collection of tropical landshells - 2 spp Madagascan *Helicophanta*, 20 *Polymita picta* etc. To include 3 wooden cabinets and library c.10 shell books. Price negotiable.

For further information contact:

Ms L. Mulrenan, 25 Eleanor Close, Woburn, Milton Keynes, MK17 9QU. 01525 290049.



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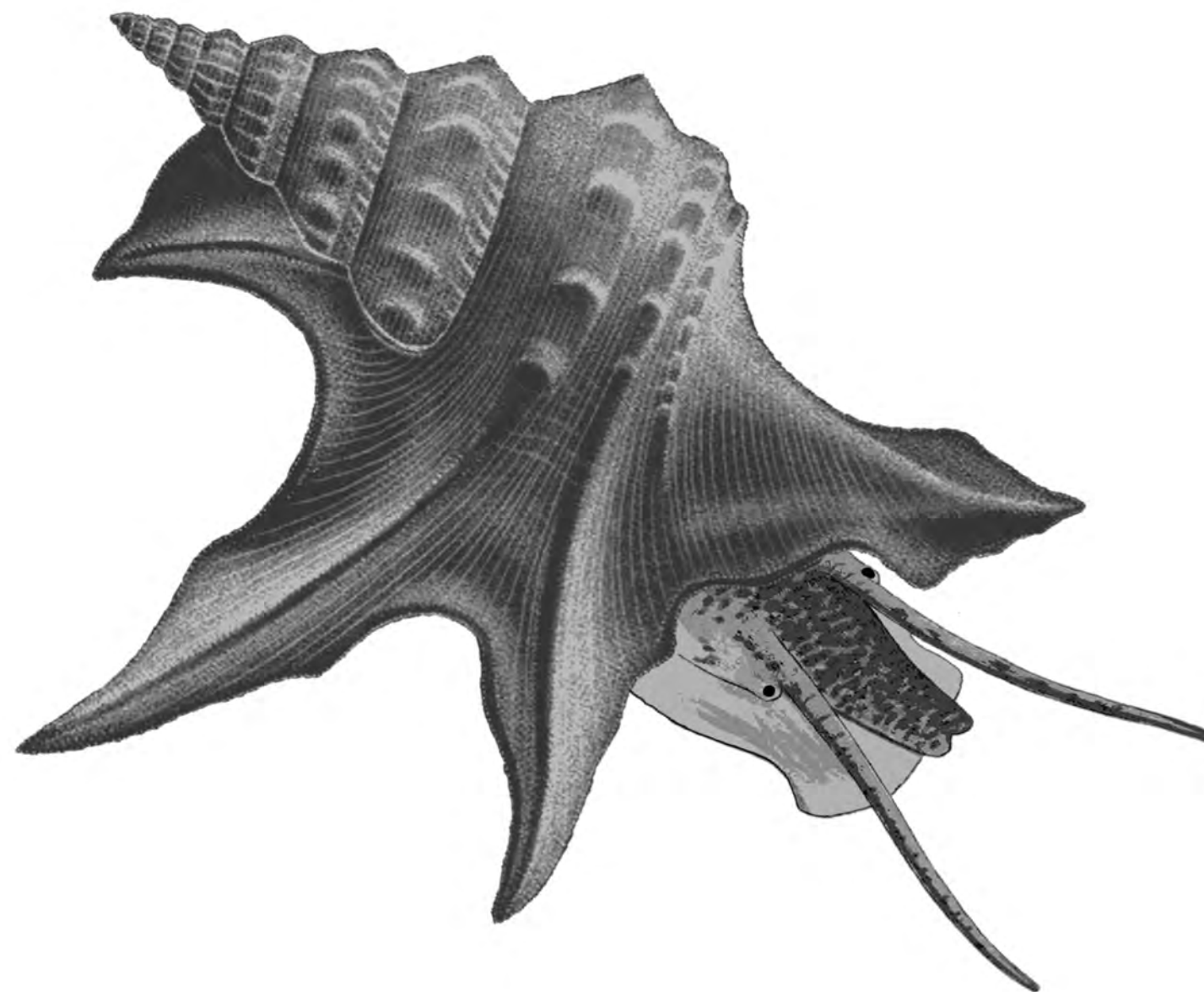
contents

2	Society information
	Society website
3	Letter from your president
	Bas Payne
	Skye news
	Jan Light
4	Field meeting
	Shell gravel from the River Lodden
	Janet Ridout Sharpe
5	Snailing in Georgia
	Robert Cameron, Beata Pokryszko, Levan Mumladze
8	Society activities in 2008
	Rosemary Hill
11	Hon. Conservation Officer's Report 2008
	Martin Willing
	Book review
	Channel Island Marine Molluscs by Paul Chambers
	Jan Light
12	Pearls: a quilting exhibition
	Caren Topley
16	Childrens book review
	Snails Don't Burp & Snail Park by Sarah Lucas
	Jane Bonney
17	New research on snail slime
	Peter Topley
18	Field meeting to Sandford Mill
	Ron Boyce
20	Launch of the new book Land and People
	Mike Allen
21	<i>Hygromia cincitella</i>
	Terry Wimbleton
23	Snails & slugs & churchyards
	Peter Topley
25	The snail in the amphitheatre
	Janet Ridout Sharpe
26	<i>Hygromia cincitella</i>. Still on the move.
	David Harfield & Adrian Brokenshire
27	Sea shells at the end of the Universe
	A.S. Naylor
28	Love darts of Common Garden Snails
	June Chatfield
29	Out Skerries shell sand
	Christine Street
30	Shell sand workshop
	Christine Street, Bas Payne, Jan Light
31	Diary

Mollusc World

ISSUE No.21

NOVEMBER 2009



ISSN 1740-1070

THE MAGAZINE OF THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN & IRELAND

Editorial



In the old film version of Dr Doolittle, Rex Harrison says 'the point of the journey is science and finding the snail!' In this issue there are several articles about journeys with just such

an aim; although the molluscs found were perhaps anything but giant and pink! Yet real life often turns out to be more fascinating than legend. A report in this issue of an expedition to record landsnails in the republic of Georgia explores a habitat that had remained stable for many thousands of years only to be threatened by the machine of war. The spread of the alien snail *Hygromia cinctella* in the UK continues to feature again in several contributions. After a summer when many members will, no doubt, have been on holiday or working in the field, there must have been many experiences and discoveries to inspire some future contributions to *Mollusc World*. Looking forward, the March 2010 issue promises to be of great interest with some articles focusing

on the recent Conchological Society field trip to Skye which will highlight the huge diversity of our often hidden marine fauna whose habitats and diversity are in many cases coming under ever increasing threat; however contributions on any mollusc related subject are always welcome and the copy deadline for the March 2010 issue is January 31st 2010. Please also continue to send me any comments (both positive and negative) you may have about the magazine to help build an exciting and informative publication for the Society.

Peter Topley

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:

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". When emailing several large file attachments, such as photos, please divide your submission up into separate emails referencing the original article to ensure receipt. 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:

Peter Topley, c/o The Hon. General Secretary, Miss R.E. Hill
447b Wokingham Road, Earley, Reading RG6 7EL
email: molluscworld@ntlworld.com

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. For UK residents we suggest payment by standing order, and if a UK tax payer, please sign a short statement indicating that you wish the subscription to be treated as Gift Aid. It is no longer necessary to sign a formal declaration.

Another simple and secure way of paying for both UK and overseas members is by credit card online via PayPal from <http://www.conchsoc.org/storefront/seesubs.php> Overseas members may also pay using Western Union, but a named person has to be nominated, so please use the Hon Treasurer's name, Pryce Buckle.

Design by Emma Pitrakou

Printed by Henry Ling Ltd

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Letter from your President Bas Payne

Dear all,

I hope you have had a good summer, with plenty of shell-hunting and good finds.

I enjoyed my first non-marine field meeting in June, to Crab and West Woods in western Hampshire. A large group, led by June Chatfield, and a lot of fun – including my first live *Helicodonta obvoluta*. [a report on this meeting will appear in *Mollusc World* Issue 22 – Ed.]. We had a great time as well on the marine meeting on Skye in September, organised by Celia Pain, about which more elsewhere in *Mollusc World*. A holiday on Euboea in central Greece in August (too hot...!) also produced lots of shells and considerable problems with identification, which I'm still struggling with. If anyone is interested in particular families, please let me know – I could use the help!

Away from the field, Conch. Soc. is making progress on various fronts. Peter Topley has taken over as editor of *Mollusc World*, and MW continues from strength to strength; J Conch also has a new editor, Roy Anderson, and you may already have received his first number by the time you are reading this. I am hoping that CS can publish field identification leaflets in collaboration with Fred Naggs at the Natural History Museum; our funding application to OPAL was unsuccessful, but we are talking to the Malacological Society about taking this forward as a joint project. Developing recording forms that can be

downloaded from the website, sent in by e-mail and uploaded into the database without needing manual re-entering, is a current initiative for which we are grateful to William Penrice. Another priority is to keep the website going from strength to strength. and, in particular, to build up the Encyclopedia; we are enormously grateful to Steve Wilkinson and Pryce Buckle for their hard work on this.

The Conchological Society has also been contributing to wider initiatives over the summer, including MarLIN's Strandlines project, and the Linnean Society's deliberations on the national systematic strategy.

We have a splendid programme of lectures over the winter; I look forward to seeing those of you who can manage to come to them.

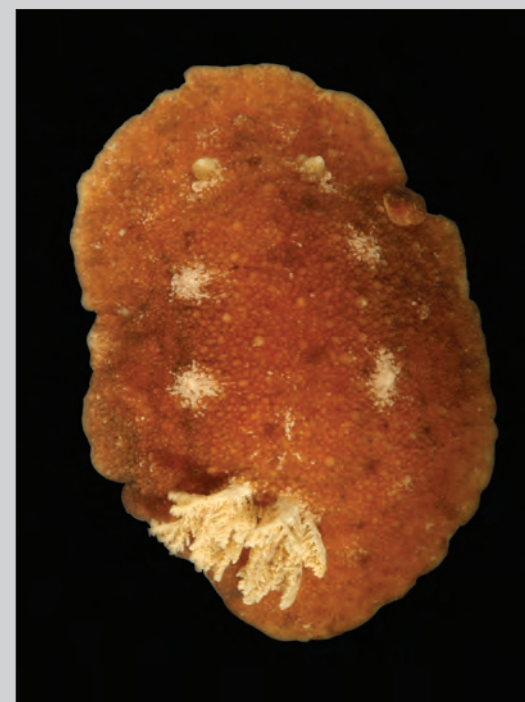
Very best wishes,

Bas

Figure: Bas looking for bivalves in lower shore sediments at The Braes, Skye (photo: Peter Topley)



Skye News: Doris reveals all as Nudibranch of the Week *Jan Light*



Geitodoris planata (Photo: Steve Wilkinson)

Disco Doris was found to be partying it up at Ardmore on Skye last week. Sporting a star-studded mantle, its 'acid' habit is well known.....

Now placed within the genus *Geitodoris*, the former *Discodoris planata* is an uncommon northern dorid which may reach 65mm in length. It is often confused with its ubiquitous relative *Archidoris pseudoargus*, commonly known as the Sea Lemon. *G. planata* can be distinguished from *A. pseudoargus* by the light coloured stellate patterns on the mantle (the acid glands), and also by the more flattened shape. The colouration usually shows a brown or purple dominance. The underside of the animal is also important with

Geitodoris having brown spots on the mantle, and conspicuous oral tentacles, both characters lacking in *A. pseudoargus*. There is a wide range of colour in the latter species, ranging through yellow, orange, brown, pink, green and white pigments. In living animals there is also a difference in texture, *Geitodoris* being crisper, harder and flatter. Another species that might be confused is *Jorunna tomentosa*. This species is characterised by the velvety appearance of the mantle which is often very pale (with paired brown blotches running down the dorsum) – very different from the warty surface of *Geitodoris*.

There is much more Skye News to come in the next issue of *Mollusc World*....

FIELD MEETING

Shell gravel from the River Loddon

Janet Ridout Sharpe

In places, along the stretches of the River Loddon examined during the field meeting on 11 July, the river bed was seen to consist of patches of fine gravel intermixed with dead shells. A small sample of this shelly gravel was taken close to the river bank, about 100 m upstream from Black Bridge on Sandford Lane at SU 77984 72898 (with thanks to Tom Walker for the grid reference and loan of his shell scoop), and examined for its shell content.

As with a shell assemblage taken from an archaeological deposit, such as the bottom of a prehistoric drainage ditch, the species represented in the sample as dead shells might be expected to represent other habitats than the gravel itself. This accumulation of species occurs through the processes of taphonomy. This term is used to describe all the different factors that act on dead shells to produce the actual collection of shells that we see. For example, dead molluscs could have fallen off adjacent aquatic weeds, empty shells could have been swept in by the current from elsewhere in the river system, shells could have been redistributed by flooding, and land snails could have fallen in from the river bank, all over an indeterminate period of time. And this, in fact, appears to have been the case with the sample in hand.

This small sample from the river bed contained the remains of at least 681 individual molluscs (the number of valves being divided by two to produce a Minimum Number of Individuals (MNI) of bivalves – the actual number, of course, since the valves do not necessarily make matching pairs, is likely to be much higher). The overall MNI of 681 shells comprised 30 species (Table 1).

Most of the gastropods were represented by dead shells and most of these again were opaque and chalky with age: some may have been in the assemblage for a relatively long time and might even represent species that do not live in the vicinity today. For example, *Acroloxus lacustris* was not recorded live anywhere on this occasion or on the previous visit to the Loddon almost exactly one year before. A few small *Theodoxus fluviatilis* and some adult *Bithynia tentaculata* were collected live, indicating that the gravel could form part of their natural habitat; the other gastropods were probably washed in from elsewhere, most obviously the four land snails. It is noteworthy that the majority of specimens were dead juveniles, their light shells being easily transported through the water. Species with the highest proportion of live-collected shells were the small bivalves. Out of an MNI of 192 *Sphaerium corneum*, 72 (37.5%) were represented by joined valves. A similar proportion of *Pisidium* spp. and three of the four *Musculium lacustre* were also complete shells which were either live or recently dead on collection. These bivalves appear to have successfully colonised the river gravel.

Numerically, *Sphaerium corneum* and *Pisidium* spp. comprised 54.62% of the total number of individuals. The next most frequent species was *Bithynia tentaculata* (10.87%), followed by *Bithynia leachii* (6.61%), *Potamopyrgus antipodarum* (6.31%) and *Theodoxus fluviatilis* (both at 4.11%). This small sample clearly demonstrates that river gravel can be extremely prolific in terms of shell material. These samples can be easily collected and used to assess species richness and diversity – with the provisos that the assemblages will be

biased by their taphonomy and that the dead shells of yesterday may not necessarily represent the living shells of today.

Table 1: Species recorded from the River Loddon gravel.

Species	MNI	%
Freshwater gastropods		
<i>Theodoxus fluviatilis</i>	28	4.11
<i>Viviparus viviparus</i>	2	0.29
<i>Bithynia tentaculata</i>	74	10.87
<i>Bithynia leachii</i>	45	6.61
<i>Potamopyrgus antipodarum</i>	43	6.31
<i>Valvata cristata</i>	3	0.44
<i>Valvata piscinalis</i>	12	1.76
<i>Acroloxus lacustris</i>	2	0.29
<i>Radix balthica</i>	13	1.91
<i>Lymnaea stagnalis</i>	2	0.29
<i>Physa fontinalis</i>	2	0.29
<i>Anisus vortex</i>	8	1.17
<i>Bathyomphalus contortus</i>	17	2.50
<i>Gyraulus albus</i>	17	2.50
<i>Hippeutis complanatus</i>	1	0.15
<i>Ancylus fluviatilis</i>	28	4.11
Freshwater bivalves		
<i>Unio pictorum</i>	1	0.15
<i>Anodonta anatina</i>	1	0.15
<i>Sphaerium corneum</i>	192	28.19
<i>Musculium lacustre</i>	4	0.59
<i>Pisidium</i> spp.*	180	26.43
Land snails		
<i>Discus rotundatus</i>	1	0.15
<i>Vitrea crystallina</i>	1	0.15
<i>Trichia hispida</i>	3	0.44
<i>Cepaea</i> sp. (fragment)	1	0.15
Total	681	100.00

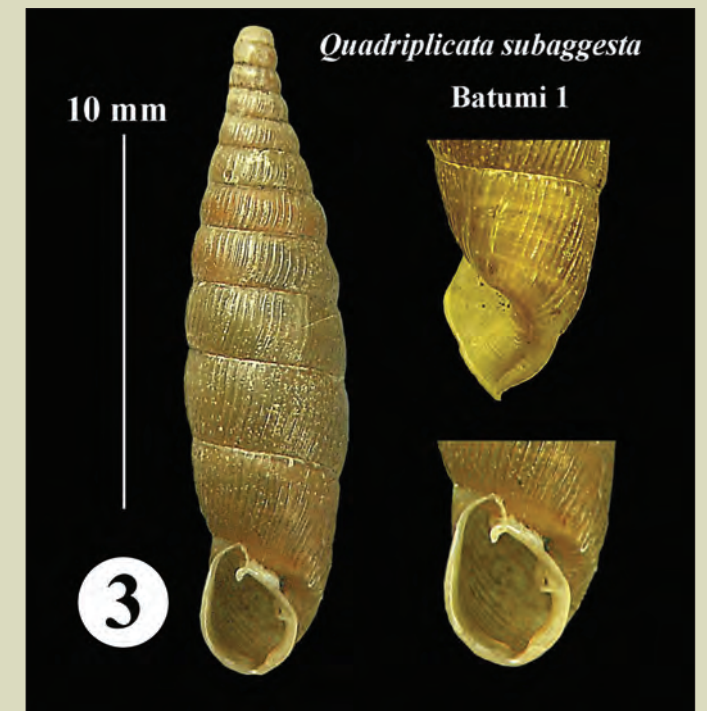
*Owing to their large number and the presence of juveniles, no attempt was made to identify all the pisidia to species level. However, six species were identified, of which the most frequent appeared to be *Pisidium subtruncatum* and *Pisidium casertanum*, followed by *Pisidium henslowianum*, *Pisidium milium*, *Pisidium amnicum* and *Pisidium nitidum*.

Snailing in Georgia

Robert Cameron, Sheffield; Beata Pokryszko, Wrocław; Levan Mumladze, Tbilisi.



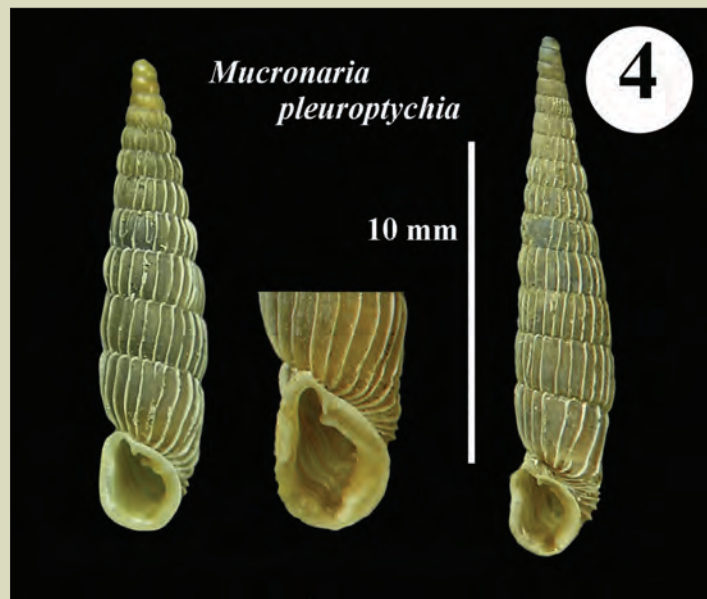
Here in Britain, as across northern Europe generally, the slugs and snails we find today are those that were able to move north as the ice sheets of the last glaciation retreated and the climate got warmer. We have a snail fauna with relatively few species at national level, though



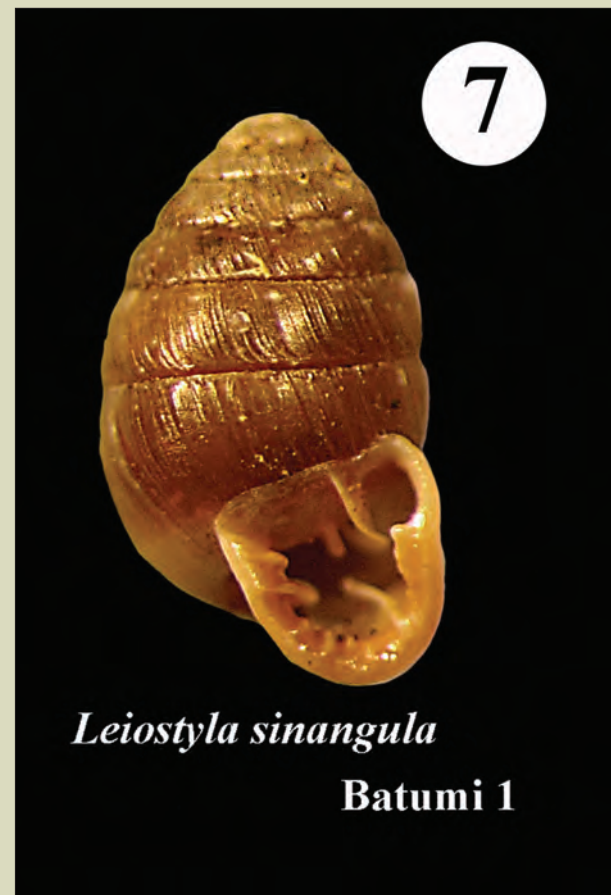
individual sites can be very rich. Most have very large geographical ranges. Further south, and especially round the Mediterranean, far more species were able to survive through glaciations and other climate changes. There are many species with very limited ranges (“restricted endemics” in the language of biogeographers), so that the faunas of countries like Greece, Spain and Italy are far richer than ours.

This richness, and the presence of lots of rare and restricted species is attributed to the existence of “Pleistocene refugia”. This works very well for species of open country, but although forest species feature too, the Mediterranean area seems not to have supported large areas of forest, because it was too dry. The one place which stayed wet and warm enough to support large areas of deciduous forest throughout the Pleistocene ice ages seems to be the Caucasus. So the snail faunas in forests there should tell us how things develop in an area which has been stable for millions rather than tens of thousands of years.

Two of us (Beata and Robert) have been studying forest snail faunas around the world for several years. Levan (as far as we know, the only mollusc enthusiast in Georgia) was studying variation among populations of *Helix* species in Georgia. (Figure 1). We managed to arrange a collaborative project to look at forest faunas in the Lesser and Greater Caucasus in the summer of 2008, backed enthusiastically by the Dean of Biology at



Ilia Chavchavadze University, Tbilisi, David Tarknishvili. In three weeks, we sampled 30 forest sites, from Batumi on the Black Sea coast through to the magnificent nature reserve of Lagodekhi near the border with Azerbaijan. We were lucky to complete our fieldwork before the Russian



invasion in August, especially as Russian forces firebombed at least one of the unique nature reserves in which we had worked, an act of gratuitous environmental vandalism (Figure 2).

What did we find? To our initial surprise, collecting was harder than in N. Europe, except where there was exposed limestone. On reflection, however, this is perhaps not so surprising, as most of the forests were on acid soils with very heavy rainfall (up to 4000 mm per year near Batumi); Rhododendrons are the commonest understory shrub, and we soon learnt to associate it with difficult sampling! As might be expected, it took us some time to identify all the material we had collected. The literature is good, but mostly in Russian, and there are few specimens from the area in accessible museums. The new (English) edition of Schütt's (2005) compendium of Turkish snails was also useful. The families with the most species were Clausiliidae (Figures 3-5) and Zonitidae (in the old, inclusive sense). Fortunately we had the expertise and collections of Dolek Riedel to assist with the latter, and Andrzej Wiktor identified the slugs: large and spectacular but hard to find (Figures 9 & 10). There were relatively few Helicoids (e.g. Figure 8) (a relief, as those in open habitats are hard to tell apart, with many taxonomic revisions). There were also a large number of *Leiostyla* species (e.g. Figure 7), which Beata will use to analyse the biogeography of this strange genus: many species in Madeira and the Caucasus, very few in between (*L. anglica*, found in Britain, is the only widespread species surviving). Just a handful of species are found also in Britain (for example *Nesovitrea*



hammonis, *Punctum pygmaeum* and *Carychium tridentatum*). The highlight was the first discovery of living *Carychium schlickumi*, a species known previously only as a Pliocene fossil and possibly from beach debris on the Black Sea (identity determined by Ewa Stworzewicz). In the most disturbed sites we also found *Paralaoma servilis*; this species seems to get everywhere!

The faunas of individual sites are not rich, usually less than 20 species, significantly poorer than those that can be found in N. Europe. But overall, we found more than 90 species, most of them endemic to the Caucasus (including north eastern Turkey). Individual

sites differ far more in their faunas than we would expect in England or Poland, but many species seem to have rather wide but discontinuous geographical ranges, rather than being very narrowly restricted. So there is a geographical pattern in the faunas, but it is messy. Many of our records extend the known distributions within the region. Except that the kinds of snails (medium to large species such as clausiliids and helicoids) are typical of Europe, the pattern looks similar to that seen in some tropical and subtropical forests where most species involved are much smaller. Levans's work on the molecular genetics of the endemic *Helix* species (at the Biodiversity Research Centre of Chavchavadze University) will help us determine how long isolated populations of a species have been separated. His preliminary results show that there is at least pre-glacial isolation in the closely related species of the genus found in different parts of Georgia. Very few of these Caucasian species have managed to spread elsewhere since the last glaciation.

Apart from people mentioned already, Robert Cameron thanks the British Ecological Society for a Small Ecological Project Grant, Beata Pokryszko thanks Wrocław University for assistance, and all of us thank Giorgi Chaladze for magnificent driving and help in the field.

Reference: Schütt, H. 2005. *Turkish Land Snails* (4th ed), VNW, Solingen.

Figures:-

1. Levan Mumladze and Robert Cameron sorting samples at Lagodekhi.
2. In the Borjomi Nature Reserve.
3. *Quadriplicata subaggesta*, Batumi.
4. *Mucronaria pleuroptychia*, Ambrolauri, Greater Caucasus.
5. *Serrulina serratula*, Lagodekhi and Borjomi.
6. *Caucasotachea calligera*, near Poti.
7. *Leiostyla sinangula*, Batumi.
8. *Helix goderdzi*, Goderdzi Pass.
9. *Gigantomilax lederi*, Borjomi.
10. *Eumilax brandti*, Bakhmaro.

Figure 1 by Beata Pokryszko, all others by Robert Cameron

Society activities in 2008 – selections from some of officers' reports presented at the annual General Meeting

Rosemary Hill, Hon General Secretary

Council

Four Council meetings were held including a full day meeting in October. Amongst the issues considered by Council were: placing an advertisement for the Society in *British Wildlife*; the work of the Conservation and Recording Committee; biological record data sharing agreements with the National Biodiversity Data Centre, Ireland and with other organisations; the Society's insurance; the Society's publications; the development of a Society Recording Manual; and Society finances.

Programme

The programme for 2008 consisted of five indoor meetings held at the Natural History Museum in London, one indoor meeting held at National Museum Wales in Cardiff, nine field meetings and one indoor workshop. The meeting in Cardiff included lectures by Ben Rowson (Britain's carnivorous slugs and snails), Muriel Alix (Zebra mussels (*Dreissena polymorpha*) in Cardiff Bay: a case study), Jan Light (Marine molluscs of caves and upper shore crevices), Steve Wilkinson (Recording, mapping and encyclopedias), June Chatfield (J R le B Tomlin's residence in Reading and St Leonards near Hastings and his connection with the local museums), Peter Topley (Molluscs, churchyard use and wildlife management: two Bedfordshire examples), and Graham Oliver (The DTI British Bivalves Project). There were also workshops on British slugs and British pyramidellids (Odostomia and Brachystomia). Ron Boyce welcomes ideas for meetings of all kinds and for speakers for the indoor meetings.

Council Positions

Dr J D Nunn began her third year as President of the Society. The following Society Officers were

elected: Hon. General Secretary Miss R E Hill, Hon. Treasurer Mr P U Buckle, Hon. Membership Secretary Mr M D Weideli, Hon. Editor (*Journal*) Dr P G Oliver, Hon. Editor (*Mollusc World*) Mr I J Killeen, Hon. Marine Recorder Dr J M Light, Hon. Non-Marine Recorder Dr A Norris, Hon. Conservation Officer Dr M J Willing and Hon. Programme Secretary Mr R Boyce. New Ordinary members of Council were Mr T Clifton, Mrs C M Street and Mr J P van Weert. Mr K Brown, Mr P T Wimbleton and Mr S Payne began their second year; and Dr M J Allen, Mr R Carr and Dr S B Wilkinson began their third year.

Membership

Membership of the Society at the end of 2008 was 293. This includes Life Members, Honorary Members, Ordinary Members, Family Members, Student Members and Institutions. There were 20 new members in the year, but 15 members resigned or lapsed through non-payment, giving a net gain of 5 members for the year. During the year there were 73 subscribers to the *Journal of Conchology* which is one more than in 2007. Please take every opportunity to recruit new members. Either pass their details to Mike Weideli or encourage them to join via the website. Recruitment leaflets may be obtained from Celia Pain or Rosemary Hill at indoor meetings. The Society display poster may be obtained from Terry Wimbleton in either A3 or A2 size.

Publications

Two issues of the *Journal of Conchology* (Volume 39: 4, 5) and three issues of *Mollusc World* (Numbers 16-18, March, July and November) were published. The Society also published the Members' Guide. The new version of the Society's website www.conchsoc.org was launched in February and is attracting an

impressive number of visits from at least 114 countries.

Research Grants

One application for research grants was received and granted to Alexandra Zieritz on 'Assessing the role of genetic variability versus phenotypic plasticity in intraspecific morphological variation of freshwater mussels (Unionoidea) on a small geographic scale.'

A grant was also given to the Prehistoric Society towards the production cost of a book: 'Land and People: Papers in Memory of John G Evans.'

Legacies and donations

The Society is most grateful to Miss Stella Davies for a legacy of £2000 in addition to books and papers. The Society is also grateful to Miss Helen Rhoden for the donation of a lifetime collection of marine specimens mainly from the UK and Ireland and for books.

Announcements of deaths

The death of the following member was announced at an Indoor Meeting: Miss Stella Davies (member since 1948).

The Society would like to thank all members of Council and Society volunteers for their valuable contributions during the year.

Announcement

Members may be interested to learn that member and regular contributor, Alex Menez, from Gibraltar, has been awarded the degree of Doctor of Philosophy by Cardiff University. Dr Menez's doctoral thesis is entitled: 'Pattern and process in southern Iberian land mollusc diversity'.

Report of the Hon. Conservation Officer 2008

A selection of some of the key items of interest from the year 2008 are described below.

Advice and help:

Has been given to many individuals and organisations including specimen identification and advice on habitat management. One exciting specimen confirmation was that of P. Wilson's new vice-county record of *Pisidium tenuilineatum* for Cambridgeshire.

Assistance was given in the production of (1) a Local Species Action Plan (LSAP) for the depressed river mussel *Pseudanodonta complanata* for Bedfordshire and (2) information provided to give assistance with a review of the Lincolnshire BAP river mussels (*Pseudanodonta complanata* and the Witham orb mussel *Sphaerium solidum*) for the Lincolnshire Biodiversity Partnership.

British Wildlife:

The production of a molluscan wildlife report for this publication continued with the inclusion of submissions in April and October 2008. Key items in the reports included (1) news that the Roman snail, had been added to the Wildlife & Countryside Act (see below); a review of a new publication documenting recent work on all of the *Vertigo* species of Norfolk; news of a newly discovered *Vertigo moulinsiana* population in an unusual habitat in Wales; (2) interesting key points from the marine and non-marine 2007 Officers' reports included mention of the wealth of new Irish non-marine records; the rediscovery of *Segmentina nitida* in Yorkshire and the first discovery of a living population of *Heleobia stagnorum*; news of a new Conchological Society non-marine species checklist and the designation of a new SAC for *Vertigo angustior* at Garron Point in Aberdeenshire.

Invertebrate Link and The Invertebrate Conservation Trust (Buglife):

Membership of Invertebrate Link and Buglife continues to provide useful contacts with members from other NGOs and governmental organisations (e.g. Natural England, Countryside Council for Wales, Royal Entomological Society) concerned with invertebrate conservation.

Biodiversity Matters:

1. BAP Action Plans:

In my last report I gave details of the governmental launch of the new UK BAP (Biodiversity Action Plan) Priority Species and Habitats in August 2007, which resulted in the increased number of 19 BAP priority non-marine molluscs (these are: *Vertigo moulinsiana*, *V. geyeri*, *V. genesii*, *V. angustior*, *V. modesta*, *Quickella arenaria*, *Margaritifera margaritifera*, *Pseudanodonta complanata*, *Pisidium tenuilineatum*, *Truncatellina cylindrica*, *Valvata macrostoma*, *Sphaerium solidum*, *Anisus vorticulus*, *Segmentina nitida*, *Myxas glutinosa*, *Gyraulus acronicus*, *Omphiscola glabra*,

Heleobia stagnorum and *Mercuria similis*.). At the close of 2007, the Joint Nature Conservation Committee (JNCC) contacted the Society requesting that draft key conservation actions proposals, submitted earlier in early 2007, (which had now been now further refined and expanded by Invertebrate BAP Working Group) be re-examined and checked to ensure that the conservation actions plans for the 19 BAP species were:

1. appropriate;
2. correctly assigned to each UK principality;
3. reflected known distribution;
4. and included 'SMART' success criteria (or at least milestones towards these criteria).

The final upgrading process took place in the first months of 2008 and involved contributions from a wide range of experts both within and outside the Society. At the end of 2008 the definitions of the priority habitats and the information supporting the selection of the priority species were published on the UK BAP website which can be viewed by following the links on the UK BAP home page <http://www.ukbap.org.uk>.

2. JNCC Workshop – BAP Priority Species Actions:

In early December 2008 the JNCC in conjunction with the Biodiversity and Reporting and Information Group (BRIG) and the Biodiversity Research Advisory Group (BRAG) ran a workshop in Peterborough to try to prioritise immediate actions for BAP priority species. The project looked at some of the actions identified for the 1149 BAP priority species. The aim of the workshop, which I attended, was to rationalise the signposting database, produced as part of the UK BAP process, into actions highlighting:

- one-off species specific surveys and species specific research that can be taken forward immediately, and
- identification and rationalization of general research priorities to be taken forward in the near future.

The workshop sought to identify key knowledge gaps for the BAP species and those actions which are the ones essential for taking forward the conservation of a species now and also where groups of species plans could be combined. Time was spent working in groups (with all invertebrate attendees working together) to examine the actions submitted earlier in 2008. Ideas taken from the workshop will be presented at a BRIG meeting early in 2009.

3. 2008 BARS Reviews:

The last months of 2008 saw several Society members commenting on the annual reviews for the BAP priority molluscs (only the first 'tranche' of species and not the new priority species added in 2007). Review documents are compiled by lead partners working for various government bodies such as Natural England, Countryside Council for Wales and the Environment Agency.

4. Updating Red Lists:

Work on the 2008 revision of the Red Data lists is underway; it is hoped that a submission will be completed before the end of 2009.

5. Habitat management guidance for European Protected Species:

Natural England were given habitat management advice to assist them in dealing with applications from landowners / managers with populations of *Anisus vorticulus* on their land. As *A. vorticulus* is a European Protected Species (EUHSD Annex IV), management operations actually or potentially affecting this snail now need to be approved and then licensed.

Wildlife & Countryside Act: (1) Addition of the Roman Snail *Helix pomatia*:

In early March 2008 it was learnt that *Helix pomatia* had been added to Schedule 5 of the Wildlife and Countryside Act 1981 (see figure). From 6th April 2008 wild caught Roman Snails were protected from intentional taking, injury or killing as well as possession and sale (the snails are in good company for they will also be joined by other beneficiaries of the 4th Quinquennial Review such as water vole, spiny and short-snouted seahorses and angel sharks!). The whole saga started way back at the end of 2001 when the Joint Nature Conservation Committee (JNCC) invited the Conchological Society to submit proposals regarding the fourth review. After consultations with Society members I sent proposals for the addition of the two species *H. pomatia* and the freshwater bivalve *Sphaerium solidum* together with the removal of two others, *Paludinella littorina* and the *Thyasira gouldi*. In December 2002 it was learnt that JNCC were recommending that *H. pomatia* be added to Schedule 5, although they rejected the addition of *Sphaerium solidum* (pleasingly it now has BAP priority status as a result of our BAP campaign!) and had also decided not to remove any species from the Act. All seemed well until, following a long wait; we learnt in early 2005 that DEFRA, whilst not rejecting *H. pomatia*, had nevertheless placed it into a 'neutral' category pending wider consultations. They were concerned about the

commercial impact upon the restaurant trade. 'Informed opinion' believed that this would rapidly lead to Roman Snails being dropped from WCA consideration. At this point I embarked upon an urgent fact finding exercise to discover exactly what 'top' restaurants actually served in the 'escargots' line. Restaurant suppliers were also contacted to reveal where they got their snails. The results were very interesting and showed that, of the outlets contacted, none used 'native' wild-caught *pomatia*. A robust defence was sent to DEFRA together with the initial proposal documents. We were also given valuable support by Matt Shardlow of Buglife. A three year wait then followed resulting in the announcement of WCA acceptance in March 2008. Of course legal protection is not necessarily going to guarantee instant protection. The general public now need to know that these snails are now 'off-limits' for the pot. It is hoped that DEFRA may be able to produce leaflets and other publicity material to publicise this protection (without any disclosure of Roman Snail locations) and a partner role for the Society will be discussed in 2009.

Wildlife & Countryside Act: (2) The 5th Quinquennial Review of the Wildlife and Countryside Act, 1981

In early May 2008 we learnt that JNCC were providing opportunities for comment on revisions to Schedule 5 of the Wildlife and Countryside Act, 1981 (only weeks after delivering the good news on *Helix pomatia* – an outcome of the 4th Quinquennial Review which started in 2001!). We only had until 21st May to return submissions, but fortunately we were able to work together with Buglife. After consultation with Robert Cameron we were able to include our recommendations within a larger Buglife proposal covering many other invertebrate species. Most molluscan recommendations repeat proposals that had already be included in our response to the 4th Quinquennial Review. The latest Molluscan proposals are:-

Species:	5th Quinquennial Review recommendation:	Rationale for recommendation:
1. Little whirlpool ram's-horn snail <i>Anisus vorticulus</i>	Add to Schedule 5 and the ditches that snail lives in be protected under Section 9(4)(a)	There is no threat from collecting or sale, although killing during ditch management is often a problem. Grazing marsh drains are readily identifiable structures. Inappropriate management of these ditches and the surrounding land could lead to the loss of this species.
2. De Folin's lagoon snail <i>Caecum armoricum</i> 3. Lagoon sea slug <i>Tenellia adpersa</i>	Downgrade from full protection to Section 9(4)(a) only	There is no evidence of risk of decline or extinction from intentional collection of these species. Similarly there is no evidence of a market for them. There is, however, still pressures on the habitats which continue to be at risk from coastal realignment and flood defence works, pollution, drainage and other activities.
4. Lagoon Snail <i>Paludinella littorina</i> 5. Northern hatchet shell <i>Thyasira gouldi</i>	Removal from Schedule 5	Recent surveys have shown that these species are much commoner than previously thought. Removal of these species from Schedule 5 will allow better focus of legal enforcement measures where there will be real benefits to other species in greater need of protection. Additionally removal of these species will foster greater faith in the legal process, showing that it can be flexible and kept up to date with conservation developments.

'The GIPO 1' (Legislation Policy) – Invertebrate Link statement.

In March 2008 the Conchological Society gave its endorsement (together with many other member organisations of Invertebrate Link) to a statement detailing the appropriate role of legislation in controlling activities likely to harm specified species of terrestrial and freshwater invertebrates, with particular reference to taking and killing. The full document can be viewed on the Invertebrate Link website: www.royensoc.co.uk/invlink/index.html

Associations with other organisations:

The Conservation Officer continues to attend conservation committee meetings of The Sussex Wildlife Trust. I wrote a further report highlighting new vice-county molluscan finds made during 2008 for the 'Adastra' magazine. I was also able to publicise details of the forthcoming Open University 'Megalab' initiative in order to encourage members throughout the county to get out in 2009 and

record and then submit details of *Cepaea* spp polymorphisms (Adastra 2008, Sussex Biodiversity Record Centre, Henfield, West Sussex) .

Martin Willing



Channel Island Marine Molluscs: An Illustrated Guide to the Seashells of Jersey, Guernsey, Alderney, Sark and Herm.

Paul Chambers published by Charonia Media, 2008. Paperback, 322pp. £12.49 from Amazon.

Paul Chambers grew up on Jersey with a strong interest in marine biology and collecting shells. In his late teens he started compiling Jersey marine invertebrate references and kept a card catalogue. As a London-based student in Geology/Palaeontology he continued to search out useful references using several London libraries. The last hour of a student day was applied to combing the literature: Forbes & Hanley, Jeffreys, Montagu, Donovan, Alder & Hancock.....

It was an article by the Jersey pharmacist Eugene Duprey on the shells of Jersey that prompted Paul to assess those records, many of the names being old, and compare it with his card catalogue. This was the stimulus to draw up a Checklist of Jersey molluscs. He returned to Jersey to look again, combining practical collecting with a new tool in the form of a microscope. It was the moment to expand his catalogue to cover all marine/maritime species of the Channel Islands.

This published version under review is restricted to the marine Mollusca and contains information on identification which focuses on the salient features highlighted by others and includes Paul's own local observations. But, despite the implications of the book's title, it is not an identification guide, and it should be clear that the book is not aimed at the newcomer to marine molluscs. There are other books and several websites to help the novice get started.

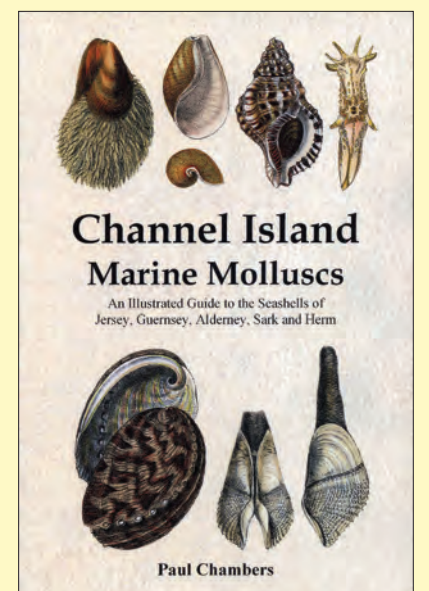
Distributional information only goes up to Seaward's *Distribution of the Marine Molluscs of North West Europe* (1990). All documented records that Paul unearthed are incorporated including 'doubtfuls'. The author has included almost none of his own records, *Caecum vitreum* being an exception. He has drawn on figures from old publications to illustrate the species.

In their reproduced form these can give no more than an idea as to the appearance of the animals.

Channel Islands Marine Molluscs is an "eccentric and self-published" book. The set-up costs were low and copies are printed on demand. It is an "imperfect" document in that there are errors but these are continually being corrected on the master version as they are drawn to the attention of the author. There is a partial preview on Google Books where you can take a look at the opening sections and selected pages from the body of the book, including the index.

As you leaf through the book you will be struck by the wealth of marine mollusc species that the Channel Islands support (479). Jersey has a spectacular diversity of shore types and the magnitude of some beaches means that on the lowest of spring tides the island's area is effectively doubled. The island presents a rewarding opportunity to record a wide range of molluscs including several Southern species rare outside the Channel Islands, and to collect their shells. Armed with a copy of Paul's book you will know which shores to visit, and what you might expect to find there. It also presents a challenge to expand our knowledge of Jersey localities and what species they support.

Book review by Jan Light



Pearls, Pearls, Pearls: a Quilting Exhibition

Caren Topley



1

I was delighted, during a visit to York in May, to discover that the Quilt Museum and Gallery in York (situated in the 15th century guildhall, St. Anthony's Hall) was holding an exhibition on the theme of 'Pearls, Pearls, Pearls'. The quilts were designed and made by members of The Quilters' Guild of the British Isles who were invited to submit a new piece of quilted work to celebrate The Guild's 30th (i.e. Pearl) anniversary.

The Quilters' Guild of the British Isles is a national membership organization, which was formed in 1979 and is made up of about 7,000 individual members, mostly from the UK, but also from Europe and other parts of the world. The Guild is an Educational Charity, which provides educational resources and services for its members, lends support to teachers within the Guild and liaises with educational bodies beyond the quilting world. Membership is open to anyone who works in patchwork, quilting or appliqué or has a special interest in quilts.

The pieces chosen for the exhibition demonstrated a wide interpretation of the 'Pearls, Pearls, Pearls' theme. The designs encompassed a range of contemporary, pictorial and traditional styles. The techniques used included appliqué, both hand and machine quilting, together with the use of stencils and fabric painting. The materials utilised included hand dyed, digitally printed and commercial fabrics, tissue paper, felt and feathers and of course much embellishment with beads and pearls. The exhibits varied in size and were mainly wall hangings; the largest being 140cmx140cm and the smallest 32cm x 46cm, but also included quilted garments, a soft furnishing and a 3D piece. There was a good mix of entries from both professional and non professional quilters who are all members of the Quilters' Guild.

In her book 'Oyster', Rebecca Stott comments that pearls rarely appear along with oysters in western art. However, among the many inspiring exhibits I have selected items which explored more explicitly the "shell" theme in their designs. I have also used extracts from descriptions by the designers themselves which were included in the exhibition guide.



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opening their valves to obtain drops of dew and then returning to the sea bed where the dew was transformed into pearls (figure 1). The pearl is, in reality, a by-product of certain molluscs evolving a way of protecting their body from the roughness of the shell by secreting a smooth nacreous lining, also known as mother-of-pearl. Pearls occur when a foreign particle that has entered the shell is coated by layers of nacreous secretion, in order to reduce irritation. Thus the iridescent pearl is formed - a mixture of calcium carbonate and an animal substance called conchiolin (Figure 2).

Pearls are not only white, as Osias Beert and Jan Vermeer noted: 'the whites of wet oyster flesh, of mother of pearl and of pearls were never just white'No two pearls are the same for each is made from the mother-of-pearl lining produced by a particular place. Mother-of-pearl can be pink, rose, white, yellow, cream, golden, green, blue and black (Figure 3).

The pearl industry has a long history. For example pearls were collected in the Persian Gulf as long ago as the second millennium BC. An inscription in cuneiform from the ancient Assyrian city of Ninevah details a king's interest in 'the sea of changeable winds' where his merchants fished for pearls. Methods of diving for oysters have changed surprisingly little throughout the centuries. Since the end of the time of enslavement of the pearl divers, these men and women have inspired enormous respect from their own communities for the skill, courage and risk they undertook (See figure 4).



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In earlier times, before the era of modern science and natural history, many legends surrounded the pearl oyster. Early Greek and Roman writers thought that pearls were formed when oysters migrated to the surface of the sea,

Pearls have been a part of culture since the 6th century BC and pearl necklaces are described in the ancient Hindu religious poem, the 'Ramayana' written about 500BC (See figure 5). However, when eventually in the 19th century developments in oyster farming and transportation led to a drop in the market price of oysters which turned them into the food of the poor, the pearl also began to change its status of exclusivity. For many centuries pearls had been worn by the wealthy and powerful. But in the 19th century, mass production techniques of pearl buttons made possible by the Industrial Revolution enabled the very poor to mimic and even subvert the use of pearl as a marker of wealth. Pearl buttons, carved out of the mother-of-pearl lining of the oyster shells by new cutting machines, were striking but relatively easy to produce. In 1875, Henry Croft, a municipal road sweeper, collected the pearl buttons that had fallen to the market floor from the clothes of costermongers, stitching each by hand onto his own clothing until every inch of cloth had been covered. Dressed in this suit he collected money for hospitals, orphanages and workhouses in the slums of London; this became the origin of the London 'Pearly Kings and Queens' (See figure 6)



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Lastly, figure 7. This particular quilt summed up all that is beautiful and enduring about a pearl, conveying a sense of the power of art to transform the 'ordinary stuff of life into something beautiful and enduring and rich and strange'.

Photos

- (1) 'Pearls from Moonlight' by Jane Edmonds, Beaconsfield, Bucks. Her quilt was "inspired by Greek and Roman legends that pearls are formed when dewdrops filled with moonlight fall into the ocean and are swallowed by seashells."
- (2) 'The home of the pearl.' By Chris Dixon, Gosforth, Newcastle. 'The design is developed and stylised from an oyster shell drawing. I have described the rough ribbed and textured nature of the oyster shell, a contrast to the smooth contained pearl inside.'
- (3) 'Pearls are not just white' By Liz Heywood, Chandler's Ford, Hants. 'Quilt inspired by the contrast between the rough outside rim of the oyster shell and the smooth lustrous interior where the pearl is found.'
- (4) 'Pearl Divers' by Penny Armitage, West Horsley, Surrey. 'My quest to capture light on the sea goes underwater along with oysters, divers and my textured textiles and a wonderful excuse to collect pearl beads.'
- (5) 'Pearl Necklace' by Pam Stanier, Malvern Wells. 'Pearls, pearls, pearls, made me think of a pearl necklace casually thrown onto a patchwork quilt.'



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- (6) 'Pearls. Pearlies, Pearlies' by Pat Salmon, Leatherhead, Surrey 'Young Pearly King and Queen against a background of Lambeth walk.'
- (7) 'Full Fathom Five' by Anne Tuck, Gosforth, Newcastle. 'Those are pearls that were his eyes..Nothing of him.. but doth suffer a seas change' Words spoken by Shakespear's sprite Ariel.

(All photos by Peter Topley)

References

- 'Pearls, Pearls, Pearls,' exhibition guide (Quilters' Guild of the British Isles, 2009)
- Scott, Rebecca, 'Oyster' (Reaktion Books, London, 2004)

Acknowledgements

Images and descriptions from the exhibition are published with the kind permission of the artists themselves and of the Quilters' Guild of the British Isles. Particular thanks are due to Fiona Diaper, Museum Director of the Quilt Gallery and Museum, York, for proof reading this article prior to publication and liaising with the quilters concerned.



7

Review of children's books

Snails Don't Burp! and Snail Park

by Sarah Lucas, with illustrations by
Amy Lucas & Henrietta Hellard

Professional Marketing Ltd., ISBN 978-0-9557251-1-1 and ISBN 978-0-9557251-2-8

Price c.£5.99 each



The second volume in the adventures of Old McSlithers the giant snail and his human friends Amy and Charlie carries on where the first book, *Snail Trail*, left off (see *Mollusc World* 16.26). In this story, an American film producer wants to make a film about their adventures so far, but the girls have their doubts. Subsequently they fall out so Amy teams up with a boy from her class, Jack, instead. They try to hide Old McSlithers but he is ill with an upset stomach (hence the title of the book) and in any case it's not easy to hide a snail the size of a four story building. There are some other mysteries to keep the junior detectives going as well: the new people in the village, Mr and Mrs Cracked-Up, who are acting very oddly, and trails of glitter that have appeared from nowhere.

Unfortunately *Snails Don't Burp!* lacks the originality of its prequel, *Snail Trail*. Despite, or perhaps because of, assistance from various members of the Conchological Society, the book



feels a little too contrived. Sarah Lucas has worked hard to get some messages across and to get her facts right, and it shows. *Snail Trail* had a much more spontaneous feel to it than this book. The emphasis on healthy eating and recycling are a little too clumsy and some of the ideas about how a snail might react adversely to being poisoned are perhaps only relevant to an expert. There are too many new characters and it feels a little too politically correct. Somehow the author seems to have lost track of the fact that this is a kids' book.

This is not to say that the book is unreadable. There are still some good parts to it, and Amy Lucas's illustrations are delightful, but it didn't quite live up to my expectations. *Snail Park*, on the other hand, the third volume in the series, is a much better book. Although the plot still emphasises important issues such as conservation and road traffic, it flows better and these subjects are introduced in a much more believable and naturalistic way. There are a lot

of new characters in this book too, but unlike in *Snails Don't Burp!* they aren't all indistinguishable school children. The main child character to be introduced is the very peculiar Laura Crust, who is weird enough to be a creation of H P Lovecraft, and there is a subplot involving Mrs Snout, the Headmistress of Bourne School who is literally falling apart. I found this genuinely funny and when the villain gets their come-uppance at the end of the story I laughed aloud. There are also some strokes of originality, such as Amy's good fairy Tamanather and as usual a mystery to be solved by the junior detectives Amy and Charlie (who of course are now friends again).

Sarah Lucas has evidently not run out of steam yet as the next book, *Snail Movie*, is due out this year. Watch this space!

review by Jane Bonney

Photos: Book launch of "Snail Park" (photos by June Chatfield)

New research reveals a molecular basis behind the regenerative properties of snail slime

The secretion of *Cornu aspersum* has been under investigation for some years for its therapeutic properties in the area of skin ageing, which is accompanied by diminished structural integrity and wound healing. In wound healing, dermal fibroblast cells must proliferate and migrate into the injured tissue. Research into natural products by pharmaceutical companies has discovered that the secretion of snails may have potential as the basis of a regenerative treatment. Snails retract their orientation organs upon detection of solar radiation and secrete large amounts of protective mucous. Snails also never suffer from skin infections. A paper published in 1999 (Ledo A. et al, *Radioprotección* 1999;23) demonstrated that a secretion from *C. aspersa* (abbreviated SCA) induced skin regeneration after wound healing impairment from radiodermatitis. Researchers at the Hospital Universitario de la Princesa in Madrid (Brieva A. et al., *Skin Pharmacol Physiol* 2008;21:15-22) have now performed research to

evaluate these regenerative properties. They have found that SCA possesses antioxidant properties, induces fibroblast proliferation and promotes extra cellular matrix remodelling, all essential for wound healing and tissue plasticity. They have also found that SCA inhibits an enzyme called matrix metalloproteinase (MMP), thus limiting the extent of damage during wounding and scar formation. The authors go on discuss possible future uses in regenerative therapy.

For the less squeamish it may be of interest to learn that there is a patent filed for the method of extraction of the secretion from *C. aspersum*, which was used by the researchers. This involves stimulating the living snails to produce their natural secretions from the mucinous, albuminous and salivary glands by centrifugation and then collecting the fluids from the living animals.

Peter Topley

Dear readers

I am interested in the sea snail *Murex* (now *Bolinus*) *brandaris*. In biblical times it was used as a source of purple dye used in religious garments and was very expensive for many years. It was later that purple dye was produced chemically by William Perkin and in Victorian times became a fashionable colour.

The name Brandaris is also used for the powerful lighthouse on the Friesian island of Terschelling where my husband's family came from and so we called our house "Brandaris" here in Hertfordshire.

It would be interesting to know how this mollusc got its name. Was it perhaps discovered or identified by a Dutchman? Can any reader of *Mollusc World* help me answer this question?

Sincerely, Patricia Klijn.

[Any answers to the Editor, please and we may publish them in the next issue - Ed.]

Contacts and help with molluscs in Pakistan.

Mr Pervaiz Iqbal, a PhD student at the University of Karachi who is working on marine molluscs for his research and also as a hobby, recently contacted the Society asking for help with identification - the literature available to him is limited.

I have sent him details of various websites that might be useful, and have also suggested that he might find Conch-L helpful.

He would welcome any contacts from CS members interested in marine shells from Pakistan and neighbouring areas, and would be very grateful for any spare books or pdfs of relevant publications. His contact details are:

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Research Fellow
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University of Karachi
Pakistan 75270

pvza_mb@hotmail.com

The Limpet

I dislike the Limpet
always have and always will
watching it needs overtime
all it does is stay quite still

I so dislike the Limpet
to kill it would be easy
perpetrating such a crime
would not make me feel queasy.

Oh I dislike the Limpet
clamped so far as I can tell
on the same old rock all day
just a sucker in a shell.

S. Peter Dance

Carlisle, 25 June 2009

*Any poems in response to Peter's
would be welcome! Ed.*

FIELD MEETING

Sandford Mill Berkshire 11 July 2009 *Ron Boyce*



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One week after a field meeting to this area on 14 July 2007 [see *Mollusc World* 17, p. 16-17] the River Loddon just south of Reading experienced record flood levels and all the sites we had studied were inundated. They were flooded again on 11 February 2009 but not quite to the same depth.

It was with this in mind that we decided to revisit the area and resample the first study site. Seven of us met on Loddon Bridge, Earley and went towards the site near the bridge that we had worked on earlier, only to find a group of anglers starting to unpack their bait boxes exactly where we needed to be; so we surveyed a rather less promising site a few tens of yards upstream. Samples of river bed at this point consisted mainly of soil recently scoured from the river bank and contained no bivalves, but a range of water plants was present where we found the gastropods *Radix balthica*, *Potamopyrgus*

antipodarum, *Anisus vortex*, *Lymnaea stagnalis*, *Bithynia tentaculata* and *Sphaerium corneum*.

We then took two vehicles about a mile downstream to the car park next to the Berkshire Museum of Aviation, an area best known for Douglas Bader's air crash and the manufacture of the world's first reliable ballpoint pen, the Biro, at the aircraft factory that used to be here. A footpath from this point leads down to a marshy area that had recently been grazed by cattle [SU 778728]. There was abundant insect life here including mature adult brown bush crickets *Pholidoptera griseoaptera*. Here we found numbers of *Succinea putris* including eggs and one mating pair, *Zonitoides nitidus*, *Cochlicopa lubrica* agg., *Deroceras laeve* and one shell of *Carychium minimum*.

After a rainy lunch break and some discussion about the Fairey Fulmar in the Museum yard with its folding wings and contra-rotating propellers, we walked along what remains of the old airfield perimeter road to Sandford Mill, where this section of the river Loddon [SU 780729] contained *Theodoxus fluviatilis* juveniles, *Lymnaea stagnalis*, *Anisus vortex*, *Potamopyrgus antipodarum* and *Bathymphalus contortus*.

June Chatfield pointed out a large net of peacock butterfly caterpillars on the nettles not far from the river bank.

Some fresh water bivalves were collected here and later identified as *Sphaerium corneum* and *Pisidium henslowanum*.

A little further upstream [SU 779729] we found *Theodoxus fluviatilis*, *Viviparus viviparus*, *Bithynia tentaculata*, *Lymnaea stagnalis*, *Sphaerium corneum*, *Lymnaea auricularia* [dead shells], *Valvata piscinalis* [dead shells], *Bathymphalus contortus* and *Anisus vortex*, and more bivalves later identified as live *Pisidium subtruncatum* and *Pisidium amnicum*.

Janet Ridout Sharpe collected samples of shell gravel from this site and these are reported on separately.

A gravelly area along the river near Herons Lake [SU 779727] contained *Bathymphalus contortus*, *Anisus vortex*, *Theodoxus fluviatilis*, *Sphaerium corneum* and *Lymnaea stagnalis* but no *Pisidium*. We were pleasantly surprised when we fished up a green freshwater sponge here. A pool nearby [SU 7786726] had anoxic sediments but did contain *Gyraulus albus* under waterlily leaves.

A concrete platform covered in ivy that once supported gravel extraction machinery yielded *Clausilia bidentata*, *Lauria cylindracea* and *Trochulus hispidus*.



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A walk around Herons Lake near SU 779725 produced *Physella acuta*, *Planorbis carinatus* and live *Pisidium milium*. The soil was less sandy here and we started to find more land mollusca [*Arion subfuscus*, *Trochulus hispidus*, *Aegopinella nitidula*, *Monacha cantiana* and *Cochlicopa lubrica* agg.].



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Sandford Lake [SU 781726] contained more freshwater species [*Bithynia tentaculata*, *Sphaerium corneum*, *Bathymphalus contortus*, *Anisus vortex*, *Gyraulus albus*, *Planorbis carinatus*, *Hippertis complanatus* and *Physella acuta*].

Further east along the lake margin [SU 783727] opposite a newly constructed bird hide we found *Planorbis carinatus*, *Valvata piscinalis*, *Physella acuta* and *Planorbis carinatus*.

From here we retraced our steps towards Sandford Mill and crossed the road towards Lavells Lake [SU 782730] which is managed as a waterfowl sanctuary. Here we found *Bithynia tentaculata*, *Anisus vortex*, *Sphaerium corneum* and *Oxyloma elegans*.

We would like to convey our thanks to Andy Glencross [the Countryside Officer (Biodiversity) at Dinton Pastures Country Park] for permission to work these sites, and to the staff of Loddon Bridge Park and Ride for reserving parking spaces for us.

Photos

- Figure 1 *Sphaerium corneum* from River Loddon sediments at Loddon Bridge (PT)
 Figure 2 *Succinea putris* in the marsh below the aviation museum (PT)
 Figure 3 sampling the Loddon near Sandford Mill (PT)
 Figure 4 a sieve sample from the Loddon (RB)
 Figure 5 top side and underside of *Theodoxus fluviatilis* (RB)

- Figure 6 Peter Topley with a net sample (RB)
 Figure 7 fresh water sponge from the Loddon (RB)
 Figure 8 looking for land snails on ivy covered concrete (PT)
 Figure 9 examining samples at Sandford Lake (JC)

Photos by June Chatfield (JC), Ron Boyce (RB), Peter Topley (PT)



Conchological Society launches new book *Land and People; papers in honour of John G. Evans* by *Mike Allen*

The Conchological Society partnered publication of *Land and People; papers in honour of John G. Evans* was published this year (see also *Mollusc World* Issue 19) and launched at the Association of Environmental Archaeologists 30th anniversary conference in York in September. This handsome book does the Society proud with its pleasing cut-down A4 hardback format produced by the Prehistoric Society with Oxbow Books. It contains a wealth of papers (20 in all), which cover aspects of environmental archaeology and research that John Evans was involved in during his career; typically a number of papers relate to land snails and shells. John was a former member of the Society, and one of the last public lectures he attended was one of the Society's on Molluscs in Archaeology.

Papers by Paul Davies and Mark Robinson examine land snails in particular, with Paul discussing the nature of modern recording and ecology of woodland and Mark examining the palaeoecology of *Ena montana*. Palaeoecological sequences of land snails are discussed from Roman colluviums at Rock Roman villa on the Isle of Wight by George Speller, Richard Preece and Simon Parfitt, and from sediment cores from mire in Orkney by Terry O'Connor and Jane Bunting. Data derived from land snail evidence provide the basis of arguments of prehistoric land-use of the chalklands of southern England by Mike Allen and Julie Gardiner, and to a lesser extent by Charly French. Land snails were used in some of the preliminary work examining the prehistory of the Wylye valley,

Wiltshire (Gardiner & Allen).

Marine shells, in the form of prehistoric middens, are discussed to examine continuity and change in the Mesolithic – Neolithic of the west coast of Scotland, by Nicky Milner and Oliver Craig. Their study included isotope and radiocarbon analysis of the shells.

Indeed evidence from snails published in this book is rewriting the prehistory of the southern chalklands; a theme taken up by our President in the next issue of *British Archaeology*. I will provide a short piece on this for a later edition of *Mollusc World*.

Details of ordering the volume can be found on our website and the Oxbow Book catalogue and website. Society members are entitled to a 25% discount on the cover price.

Hygromia cinctella in southeast Hampshire, Dorset & Cornwall

Terry Wimbleton

The Girdled Snail *Hygromia cinctella* (Draparnaud 1801) is a common Mediterranean species of land snail introduced into England, being first noted in Devon in 1950. It has spread rapidly and is now found in many areas of southern England. This attractive little snail, which measures about 1 cm across, varies in colour from a yellowish white through shades to a dark chocolate brown. It has a sharp keel around the centre of the body whorl, with a light yellowish white band present around the keel. Given that its natural habitat is in the warm environs of the Mediterranean, I have observed this species in my garden active on melting hoar-frost on a sunny winter morning.

While preparing a list of local records of *Hygromia cinctella* (Draparnaud 1801) to send to the Non-Marine Recorder, I received my July copy of *Mollusc World*, and discovered it contained an article by Dr June Chatfield giving sites in Hampshire for this species¹. This prompted me to write this account on the sites at which I have collected *H. cinctella*, particularly in the county of Hampshire, but also in Dorset and Cornwall.

In 2003 John Llewellyn-Jones, a close conchological friend, had expressed an interest in finding specimens of *Cepaea hortensis* (Muller, 1774) with a brown lip. I invited him to stay with me for a couple of days and we planned to visit an old local boyhood collecting haunt on Portsdown Hill, where I knew brown lipped *C. hortensis* could to be found. We set off for the site on the 22nd July 2003 which was a pleasant warm summer day but a little dry for snail activity and snail collecting. The site we visited is situated above Drayton, Portsmouth, on the lower slopes of Portsdown Hill (SU 669063) at the northern end of Upper Drayton Lane. It consists of a small chalk pit surrounded by sloe and blackberry bushes, Old Man's Beard, nettles and grass. The colony of *C. hortensis* last visited by me in 1958, is sited on the upper east border of the chalk pit. I am pleased to say that the colony containing the brown lipped variant of the White Lipped Snail still survives here, although in far smaller numbers than was the case all those years ago. It was a dry warm day and snails were inactive, and this may in part have accounted for the small numbers of snails found.

Quite by chance on the east upper border of the chalk pit (SU 671063) I found a mature living example of the



Girdled Snail *Hygromia cinctella*. Looking around in the immediate area, this single specimen was the only one I could find. However some distance away at the top of Abadare Ave (SU 669063) (Figure 1), a dead end road with steps leading onto Portsdown Hill, a considerable number of both live and recently dead specimens were found among Old Mans Beard. The species was obviously well established at this site, which is immediately next to domestic gardens.

Since that time I have discovered a total of some 12 Hampshire sites for *H. cinctella*, with a further 3 in Cornwall, and 1 in Dorset. Most of the discoveries have been quite accidental, only about four sites were found as the result of deliberate searching. All of the Hampshire sites are in a cluster in the south east of the county and fairly close to the sea.

Some 5 miles west of the Drayton site and still on Portsdown Hill is another much larger chalk pit, the Paulsgrove Chalk Pit (SU 634066), a site which I discovered on the 22nd June 2008. This was the site of a lime works vacated some 50 years ago and is now a haven for a wide variety of animals and plants. It even has a pond created on a chalk terrace which contains *Radix balthica* (Figure 2). A number of live specimens of *H. cinctella* were found crawling over a wall on the south border of the pit, next to the entrance gate and very close to houses. This is an area where local residents dispose of their garden waste, grass and privet cuttings, shrub prunings and dead plants etc.

Returning east, I found a cluster of sites for *H. cinctella* around the East Cosham and the Farlington area, all of which are in domestic gardens about a mile both east and west of the Drayton site. All were live finds and all found in thickly planted domestic gardens: in my daughter's garden at Lonsdale Ave, East Cosham (SU 677052) on the 12th September 2006; in a garden on the Havant Road, at the



found in the garden of an amusement arcade in flower beds, on the west side of the road bridge which crosses the Looe River. The third Cornwall site was on the north coast at Padstow (SW 919753). Specimens were found crawling on an outcrop of natural rock forming a wall alongside the road through Padstow Harbour in July 2004.

All of these records occur close to human habitation, and have a strong association with gardens. This may suggest that the rapid spread of this species is possibly partly through the medium of potted plants as eggs in the plant soil. Strangely I have never found it in local Garden Centers or Nurseries, despite searching and also asking staff, who have no recollection of seeing this

distinct little snail at their places of work. I have no doubt the rapid spread of this snail will continue and many more sites await our discovery.

All these records are in the process of being sent to the Conchological Society Non-marine Recording Scheme, and most have been sent to the recording scheme being operated for this species by the National Museums and Galleries of Wales, Cardiff.

¹see also note by David Harfield and Adrian Brokenshire in this issue.

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Figure 1: The author at the Abadare Avenue, Drayton site with Portsdown Hill in the background (Photo: Shirley Wimbleton)

Figure 2: Paulsgrove chalk pit with pond. (Photo: Terry Wimbleton)

junction with East Cosham Lane (SU 670053) on the 26th August 2008 among thick ivy; in my father's garden at Copsey Grove, Farlington (SU 675059) on the 22nd July 2008.

There are three records of *H. cinctella* from the Havant area, all being live finds: in my own garden at Ramsdale Ave, Leigh Park (SU 703084) on the 18th April 2008; in the garden of a veterinary practice in Middle Park Way, Leigh Park (SU 705077) on the 27th October 2008. It was also discovered living on a roadside grass verge in Solent Road not far from the centre of Havant. (SU 715061) on the 15th October 2008.

On the 31st July 2009, three dead shells were found in a garden on an access road leading to a supermarket in Waterlooville (SU 681093). This site will need to be re-visited to determine whether live specimens are present. The final Hampshire site is in the centre of the Gosport peninsula to the east of Fort Brockhurst, on an area of waste land which had been cleared of buildings, near to a superstore (SU 599022) on the 2nd November 2008. If we take the Drayton site as a central point, all the S.E.Hants records discovered so far fall within a radius of 4 to 5 miles.

The Dorset location is at the side of a car park in Hinton Road Bournemouth (SZ 091903), found on the 24th October 2003. Live specimens were found in thick ivy on either side of the steps leading from a public car park to the road. Apart from an area of trees around the car park the site is within a built up area and not far from the main Bournemouth shopping centre.

Additionally there are three "holiday records" for Cornwall. Firstly on the south coast, on the coastal path at the top of a shore cliff at East Looe, (SX 258533), on the 6th August 1998, where only dead specimens could be found. At West Looe (SX 254536) on the same day live examples were

Snails and Slugs and Churchyard Tales: raising local wildlife awareness *Peter Topley*



Churchyards have long been recognised as having the potential to be valuable species-rich "islands" within local communities. In the previous issue of this magazine, June Chatfield's review of last year's meeting in Cardiff included the summary of a talk I gave which included a report of a mollusc survey in Clifton churchyard in Bedfordshire. This survey was part of a long term ongoing assessment of the wildlife of this churchyard, the majority of which has been carried out by local naturalist Alan Outen over many years. In order to give guidance to the Parochial Church Council on ways to more effectively manage the churchyard areas for wildlife, Alan presented a wildlife management plan for their consideration. At the same time it was also decided to raise the awareness of local wildlife, including molluscs, not only to church members but to the wider community. In order to do this we initiated the following:-

a) A display in the church of photographic images of wildlife recorded from the churchyard (using the former Conchological Society display boards which had previously been donated for use by the church). (Figure 1).

b) A talk on the wildlife of the churchyard and the village area as a whole (ie within the parish boundary). This was advertised locally and also through county wildlife groups. The talk, introduced by the parish priest and presented by Alan and myself, covered most of the main groups, including molluscs. (Figure 2). There was also a display of Conchological Society posters' leaflets and other material, together with living examples of slugs and snails along with shells for people to examine (Figure 3). A lot of interest was expressed in the exhibit and talk with many people expressing their surprise at the variety of species to be found.

c) Two wildlife walks through the churchyard were organised and publicised in the Parish Magazine, which is distributed to every household in the village. The walks included looking for the presence of molluscs and people were shown how to look for small species by using sieving (Figure 4) and vacuuming (figure 5) techniques.

d) Educational material from the Evolution Megalab *Cepaea* project web site was used to involve young children from the village who attend a church run Saturday

Errata, Issue 20

Page 11: Figure 1 depicts Cardiff City Hall, not the National Museum of Wales as described. The museum is the second domed building in the background.

Page 26: The title of this article should read 'Wanted: *Nassarius nitidus* for a phylogeographic study'.



Club. Activities run by Suzanne Stapleton and her co-leaders also included “snail races” (Figure 6), hunting for snails (Figure 7) and sieving ground litter. (Figure 8).

All these activities were well received and there have been requests to repeat some of them. The children were so fascinated that another snail hunting session was organised for the following month. Over 500 species of animals and plants have now been recorded from this churchyard. Generally speaking, increasing the interest of local people in the wildlife on their doorstep has to be crucial to the positive management of such areas and surely must include the message that slugs and snails are much more than just garden pests!

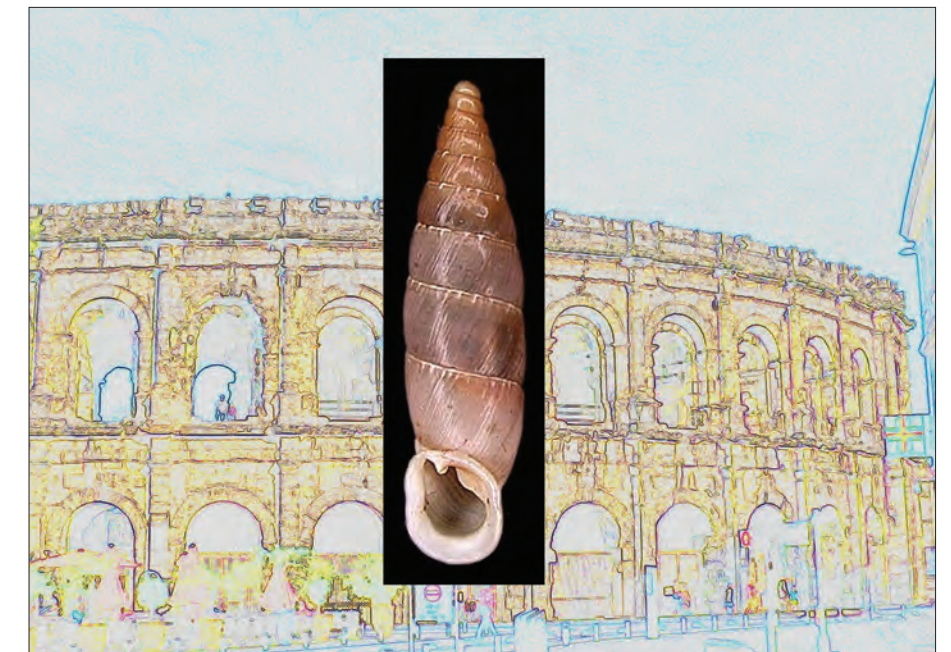
Photo credits: figures 1&3, Peter Topley; 2, Jane Pavey; 4 & 5 Alan Outen; 6-8 Suzanne Stapleton.

The snail in the amphitheatre

Janet Ridout Sharpe

Purely by chance, as she happened to be on holiday in the South of France at the time, and knowing my involvement in the discovery of *Papillifera bidens* (formerly *Papillifera papillaris*) at Cliveden, Buckinghamshire (Ridout Sharpe, 2007), a friend sent me a cutting from the local newspaper which she thought might interest me: ‘Un escargot prisonnier des arènes depuis 2000 ans’ (*L’Independant* for Languedoc Roussillon, 29 April 2009). The ‘arènes’ refers to the Roman arena or amphitheatre at Nîmes – and the snail is another clausiliid, *Leucostigma candidescens*, which bears an uncanny resemblance to *P. bidens*, right down to the necklace of little white spots along the suture line. Is there any connection between these two species? Yes, insofar as both of these snails had been transplanted from their home territory through the agency of man and have managed to survive in, but not spread out from, their new localities. Each correlates with a specific event in the past and provides a tiny piece in the vast jigsaw of historical and archaeological reconstruction.

Both clausiliids originated in Italy where *Leucostigma candidescens* has an even more restricted distribution than *Papillifera bidens*, being confined to the Apennines between Umbria and Campania (Fechter and Falkner, 1990). It is believed to have been transported to Nîmes by the Romans, hidden in crevices within the building stone that they imported from Italy in order to create their splendid amphitheatre during the 1st century AD. And there the snail has remained for nearly 2000 years; it has not spread beyond the amphitheatre and it is not known to occur anywhere else in France. Whereas *P. bidens*, which was imported into Britain from Rome in 1896 hidden in the nooks and crannies of the elaborately carved marble Borghese Balustrade,



remained undiscovered at Cliveden for over 100 years, *L. candidescens* was not recorded in the amphitheatre at Nîmes until 1903, after nearly 1900 years of anonymity! Its survival at this site is truly remarkable, since the arena became filled with housing during the medieval period, was restored as an amphitheatre by Napoleon, and was then remodelled as a bullring in 1863 (Mienis, 2009).

Both *Leucostigma candidescens* and *Papillifera bidens* appear to have very limited powers of dispersal, and in their natural habitat are found on calcareous rocks that provide the calcium for their shells and support the algae and lichens on which they feed. In both cases, the transplanted snails have remained virtually restricted to the very material on which they were originally imported. Further study of the distribution of these clausiliids may throw light on the movement of building stone in the past. For example, *P. bidens* is found today in Istanbul, Turkey, where it is believed to have been introduced during the reign of Constantine the Great around AD 330 when stone was imported for the rebuilding of Constantinople. Subsequently, as this building stone was reused, *P. bidens* found its way into two medieval forts, and an Armenian monastery on an

island in the Sea of Marmara (Örstan, 2006). I have found it among the ruins of Carthage in northern Tunisia, which was rebuilt by the Romans in the aftermath of the Punic Wars, and Menez (2007) has described its introduction into the Garrison Library Gardens in Gibraltar on garden ornaments in the 18th century AD.

Snails have been introduced into new localities for as long as man has been transporting the commodities – be they plant material, building stone or whatever – in which they naturally occur, and some may have been deliberately taken to new areas as a convenient source of food. With time, some of these ‘alien’ snails have expanded out from their points of introduction and have become naturalised, forming part of the native fauna. *Helix pomatia*, the eponymous ‘Roman snail’ and its smaller relative *Cornu aspersum* were both almost certainly introduced into Britain by the Romans from their Mediterranean homeland; both species are edible. When the shells of these snails are found in archaeological deposits, these deposits cannot predate the Roman period. Several other smaller species of snails are believed to have arrived in this country at various times between the neolithic and the present day (Davies, 2008). Most of these



were probably accidental introductions although some of them, such as *Theba pisana*, are still eaten in their native Mediterranean countries. Establishing the time of arrival and dispersal of these different species is difficult and dependent on well-dated contexts, but in cases where this has been done these snails can provide important dating evidence. For example, the chalk hill figure known as 'The Long Man of Wilmington' on the South Downs near Hastings was long thought to have been made in prehistoric times. The discovery, beneath the chalk debris produced during its construction, of two species of Mediterranean origin (*Candidula intersepta* and *Ceruella virgata*) which are not known to have occurred in southeast England prior to the medieval period, has now dated this hill figure firmly to the post-medieval (Martin Bell, pers. comm.). This process continues to the present day, the most notable example being the recent and continuing expansion of *Hygromia cinctella* away from its point of introduction in South Devon, where it is believed to have arrived from southern Europe in the 1950s.

The presence of non-native species in archaeological shell assemblages can indicate human population movements, invasions, the spread of

agriculture and the dispersal of crop plants, ancient trade routes, and the importation of specific goods and materials. Archaeomalacology is a relatively new discipline which is now expanding rapidly, and covers such diverse aspects as the use of land snail assemblages to describe past environments, the reconstruction of ancient diets from shell midden deposits, the analysis of oxygen isotope ratios to model seawater temperatures in the past, the use of shells as personal ornaments and ritual objects and hence as indicators of cognitive development in early humans – and many other things besides. The *Archaeo+Malacology Group Newsletter*, which was established through the pages of this magazine's predecessor nine years ago (Ridout Sharpe, 2000: 385) includes short articles, reports and abstracts of papers on all aspects of archaeomalacology, and welcomes new contributions. Issue number 15 was published online in June 2009; this and previous issues are freely available both on the website of the ICAZ (International Council for Archaeozoology) Archaeomalacology Working Group (<http://triton.anu.edu.au/>) and the personal website of Aydın Örstan (<http://home.earthlink.net/~aydinslibrairy/AMGnews.htm>).

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Illustration: *Leucostigma candidescens* (photo reproduced with kind permission of Marcus Coltro, © Femorale) on a background of a rendered image of the amphitheatre at Nîmes (Peter Topley).

Hygromia cinctella (Draparnaud, 1801)

Still on the move David Harfield & Adrian Brokenshire

We were amused to read about *H. cinctella* occupying a bollard in a supermarket car park in Alton (Chatfield, J., June 2009; *Mollusc World*, Issue 20. p.7).

In May 2009 I (DH) collected two dead shells of *H. cinctella* from the base of plants in flower pots in my daughter's garden in North Llandaff, Cardiff. They were alive earlier in the year when I pruned the plants.

Sadly I crushed one specimen when retrieving it from a pocket in my car door – it was the specimen intended for my friend (AB). Over a cup of coffee, by way of commiseration, AB recounted finding *H. cinctella* at the ruins of the old St. Andrew's Church below Pennsylvania Castle and above Church Ope Cove, Portland, being the first time (03/09) that AB has noticed it on the island. Also recently (AB) received several specimens of

H. cinctella from a collector friend from Belgium, collected at Lanage-Kenne with an accompanying note that *H. cinctella* was reported from Belgium for the first time on 21/06/09 at the mentioned locality. AB wondered whether this was in fact correct as it seems to be a very recent date for a first record of *H. cinctella* in Belgium.

Sea shells at the end of the Universe

A.S. Naylor



Jackson's Bay prides itself on being the remotest village on Earth. There isn't much here of course: a jetty, a few houses, a lobster freezing plant [deserted], no shops, a beach shack; at the end of the village a wooden hut with the roof partly gone and a notice: Rarely available for sale, huge potential for development, street frontage, sought-after area (6414 m²), with the name of an estate agent a great distance away... and of course some beaches with sea shells which is after all the point in going. There is also a memorial to the first, unsuccessful settlers of this wild coast. It is said that there were so many shipwrecks hereabouts at the end of the nineteenth century that they started making ship's hulls out of reinforced concrete.

To get here, start from Heathrow and fly as far as possible (Christchurch, New Zealand). Take a car and drive over the mountains to the west coast, then travel south until the road runs out.

The original plan was to visit that lonely beach shack, called the Cray Pot, to sample what are supposed to be the world's remotest fish-and-chips; but it wasn't going to be my lucky day, the place was closed. So was everywhere else. Enquiries a couple of villages further up the coast revealed that the local search-and-rescue helicopter pilot had died, and the entire population had gone to pay their last respects.

A footpath at the end of the harbour led through coastal bush to a pleasant rocky cove known as Ocean Beach which was well supplied with living and dead molluscs to study. This is about as far from modern living as you can get. Despite the remoteness, there was a signboard bearing a well illustrated poster with information about the steep cliffs made of breccia several million years old and the broad intertidal platform on which you can find barnacle drills, radiate and ornate limpets, snakeskin chitons, top shells, green chitons, catseye snails, blue mussels, common octopus, dark rock shells, green-lipped mussels, pauas and tiny snails, as well as hosts of other marine life. Most of these creatures were indeed there, live and crawling, but it was a disappointment not to have seen the octopus.

My further intention was to visit Doubtful Sound in the road-free district known as Fiordland, but the weather turned very wet. One group who had managed to make the journey there said they had seen nothing but rain, mist and a few half-discerned cliff faces. Not such a good idea then. So headed back across the mountains and southwards to visit Stewart Island instead.

At the southern tip of South Island at Stirling Point, after negotiating the Fairy Chicken Disk [this is pure Bluff: where you buy the boat tickets!] I boarded a wide single-deck enclosed catamaran and headed at 22 knots across the seriously corrugated seas of the Foveaux Strait to Oban Harbour in Half Moon Bay. Some very pleasant tree fuchsia woodland was found just beyond the harbour where many birds were sampling the nectar; I had a very good sighting of the woodland parrot known as *kaka* in Maori, and then took the opportunity to hunt for molluscs on three beaches.

One of the streets on the way back had what appeared to be a large mobile home parked in it; but it was in fact a fish-and chip restaurant on the point of opening for the late afternoon.

In conversation with the proprietor, expressed disappointment at not being able to eat at the Cray Pot; whereupon she produced a photograph of the said establishment and then claimed that it was *her* restaurant instead that was the remotest on earth!

She then said, have a look in our dining area at the other end of the caravan and see the sea shells that we have embedded in resin in the table tops! So I did. There were some very colourful examples of the extremely variable fan shell *Talochlamys zelandiae*, the wheel shell *Zethalia*



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zelandica, and two differently sized specimens of the ambiguous trophon *Xymene ambiguus*. Just before boarding the catamaran for the much smoother return voyage, overheard a conversation to the effect that that the island had completely run out of petrol, to the consternation of the water taxi operators. Such are the perils of living in remote areas.

Illustrations by A S Naylor

- Figure 1 *Austrolittorina antipodarum* at Ocean Beach
- Figure 2 Ringaringa Bay on Stewart Island
- Figure 3 *Callochiton pelliserpentis* at Ringaringa Bay
- Figure 4 Kai Kart fish and chip restaurant on Stewart Island
- Figure 5 Dining area in Kai Kart fish and chip restaurant
- Figure 6 *Talochlamys zelandiae* shells inset in table in Kai Kart fish and chip restaurant

I love darts of Common Garden Snail

June Chatfield

Amongst the numerous snails that live on the patio in my garden I have this year seen various pairs mating. On one occasion I observed a cluster of snails, several of which had been mating and on the brick wall behind, attached by mucus, were some white chalky love darts and some were also attached to their intentional target snails. A selection of the larger helicid snails have a dart sac that secretes limy harpoons that are detached and ejected prior to mating and thought to act as stimulants to the recipient snail. Snails are hermaphrodite having both functional male and female reproductive systems so darts are formed by all individuals of *Cornu aspersum*.



Photo: A cluster of *Cornu aspersum* showing love darts by June Chatfield

Not all helicid snails produce darts. In the Kentish Snail (*Monacha cantiana*) the dart sac is modified to be a long tentacle, the egersidium.

Out Skerries Shell Sand

Christine Street

We have always had enjoyable holidays on islands, usually a good source of shells and shell sand, but when we decided to strike off into the unknown in 2005, we met with problems. In choosing our destination in Shetland as the Out Skerries, a very small group of islands ten miles to the east of mainland and perhaps five miles to the north east of Whalsay, there is little room for a range of habitats. Two small islands are linked by a bridge, with one shop on each, having probably less than seventy inhabitants in all. There are quite a surprising number of young families forming a close community. I think the main occupation is fishing.

Our house was beside the aircraft runway, with a linking gate. We could go through the gate to walk up the runway, except when a plane was due, shown by the arrival of the fire tender. As the planes are only eight seaters once or twice a day, there was little disturbance from them.

For our first trip we strode up the runway to the nearest "beach" consisting of very large rounded stones and a lot of limpet shells. There were no sandy beaches. Shell sand would be impossible to find, or would it? There were on that beach very many recently washed up *Laminaria* stems, with holdfasts, that were still damp and tight. I collected a few and on cutting them up found a treasure trove of sand, which I was surprised to see complete with small shells, besides the larger shells which do naturally live in such habitats, such as distorted scallops and saddle oysters. I did the sorting above a plastic bag to collect everything. I then washed it and left it in a plastic container to dry on the grass near the house. When I went out to get it a rogue seagull had upended the container. It was easy to pick up the larger shells but the sand and small shells were mainly lost in the grass, so I am unable to give a complete list, but I did try collecting again. All the beaches were similarly stony and lacked interesting shells, but on the cliff tops were a collection of larger shells including razorshells which must have been dropped by feeding gulls. How far can they be carried? There are no suitable habitats around, except possibly the small offshore island called Grunay, but you do get good views of whales (mainly Minke) and dolphins, from the hill.

I can only think that the holdfasts are attached to rocks in an area of swirling sand which gets washed in to the nooks and crannies, but how far they come I do not know. At least I was not entirely deprived of shell sand and it was a very interesting, different place to stay in for three weeks

The shells found were mainly typical holdfast dwellers. I found eighteen species listed as follows, with my thoughts on their likely habitats. Has anyone any further ideas please?

<i>Chiton</i> sp	One worn valve. Probably washed in.
<i>Tectura virginia</i>	only two found. They may have been washed in.
<i>Patella vulgata</i>	Three found. It doesn't seem a typical habitat.
<i>Helcion pellucidum</i>	Thirty plus found. A typical holdfast dweller.
<i>Gibbula cineraria</i>	Five fairly large ones found. As they are intertidal, not a typical holdfast dweller?
<i>Rissoa parva</i>	Forty-seven found. As they lay eggs on weeds, they are to be expected.
<i>Lacuna pallidula</i>	Ten juveniles found. As their eggs are laid on weeds, they may be there for protection.
<i>Alvania punctura</i>	Fifteen juveniles found. They breed in weeds and holdfasts.
<i>Onoba semicostata</i>	Twenty-one found. They breed in weeds and silt.
<i>Trivia</i> sp	One worm shell. Probably washed in.
<i>Hinia incrassata</i>	Fourteen found, mainly (9) juveniles. They favour silty, weedy habitats.
<i>Mytilus edulis</i>	Twenty plus, juveniles there for shelter.
<i>Modiolus modiolus</i>	Sixty plus were found. Holdfasts seem a popular place for the juveniles to shelter.
<i>Chlamys distorta</i>	Three found. They are typical holdfast dwellers.
<i>Heteranomia squamula</i>	Forty plus. Typical holdfast dwellers.
<i>Kellia suborbicularis</i>	Fifteen plus found, mainly juveniles. They are typical crevice dwellers.
<i>Turtonia minuta</i>	Two single valves only, but they do inhabit crevices. Perhaps there were more I lost.
<i>Hiatella arctica</i>	Fifty plus specimens. Typical holdfast, crevice dweller.

Advertisement

Shellsand workshop: is anyone interested?

Christine Street, Bas Payne and Jan Light

We are planning to hold a one-day workshop (or workshops) on shellsand next April.

Its main purpose is to introduce beginners to working with shellsand. The main part of the day will be a long practical session in which participants working either with their own shellsand or with shellsand provided by the organisers, will

- sieve a sample,
- sort through the fractions, and then
- identify what they have found with help (and hand-outs).

Participants will be able to take their finds away at the end of the day, as a starter reference collection, together with course handouts.

The day will also include various short talks on topics like how to find shellsand; how to clean and sort shellsand; identification; and how to handle, label and store small shells.

All necessary equipment will be provided, including microscopes, sieves, brushes and forceps, gelatine capsules and specimen boxes, and so on.

Those with some experience would also be very welcome; we will include a show-and-tell session towards the end of the day so that participants can see a wider range of material, using a videomicroscope that links to a PC screen.

Possible dates are Saturday 10 April and Saturday 24 April; possible locations are Cambridge (Dept of Zoology), Godalming, Reading (Dept. of Archaeology) and York (Dept. of Archaeology).



This is not a Conch. Soc. meeting, and is open to all; a small charge will be made to cover xeroxing and disposable equipment costs.

Would anyone who is interested please contact Christine Street before 30 December: christine.street3@ntlworld.com; e-mail preferred, but if you don't have e-mail, 020 8554 8671.

Photo: Example of shell sand from Porth Towyn, Lleyn Peninsula, Wales.

Advertisements in *Mollusc World*

In order to widen the information provided to members and to provide a service for members and others who wish to advertise in the magazine, we are pleased to invite advertisements, provided they are in line with the Conchological Society's charitable objectives and responsibilities. Typical examples might include books and other publications, equipment,

services and collections of (or individual) shells. The latter will be vetted on a case by case basis and only accepted if there are no ethical problems. Advertisements of shells for sale from commercial shell dealers will generally not be accepted.

A nominal charge will usually be made for advertisements and will be

required from commercial advertisers. Charges per issue are currently £20 per 100cm² space for a boxed advertisement or £1.00 per line for a text only advertisement. Any requests for advertisements should be sent to the Editor by the normal route; information on preferred methods of payment will be given at the time.

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 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 Dorothea Bate Room [Palaeontology Demonstration Room] at the end of Gallery 30, unless otherwise stated. Please note the earlier start times, and also the long indoor meeting in January with an early start time of 11:00 h. Please bring plenty of exhibits and demonstration material. 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

WKSHP - Saturday
28 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 2009 is as follows but subject to change: small marine bivalves, and helicid land snails including identification using shell fragments from an archaeological perspective. Other items may be brought for identification. If you would like any other subjects dealt with, please contact Judith.

NHM - Saturday 12 December
14:00h in the Dorothea Bate Room [Palaeontology Demonstration Room], preceded by Council meeting.

Guest speakers at 14:00h Graham Long (Fordingbridge) and June Chatfield (Alton) *Non-Marine Molluscs of Hampshire*

NHM - Saturday
30 January 2009
11:00h in the Dorothea Bate Room [Palaeontology Demonstration Room] Please note the revised start time. No Council meeting.

Please bring plenty of exhibits and demonstration material. There will be a lunch break at about 13:00h. Lecture to start at 14:00h.

The programme is still at the planning stage but will probably include exhibits and

demonstrations of small molluscs.

Members are encouraged to bring specimens of any Mollusca for identification, a X20 binocular microscope will be available if needed.

Guest speaker at 14:00h Nathalie Yonow (University of Swansea)
Opisthobranchs of the Red Sea

Abstract
Opisthobranchs have fascinated scientists for many years. A general overview is presented, covering aspects of evolution, biology and ecology, and systematics with respect to Red Sea species. The Red Sea is an important biogeographical region, and an analysis of species composition is presented. The number of species recorded from the Gulf of Eilat and the Red Sea totals more than 250. Of these, over 70 species occur only in the Red Sea, providing a figure of approximately 25% endemism.

The geographical range of the remaining 75% is analysed. Of these, 30-odd species are found only in the Gulf of Eilat and 120 species are common to both seas. Two thirds of the Gulf species are west Pacific and Indo-Pacific in distribution, and a few are recorded only from the Gulf and not in the Red Sea! Transportation of egg masses in ballast tanks and on hull invertebrate communities is presented as a means of dispersal. Publications on opisthobranchs from the Red Sea go back 250 years. A historical review is presented covering the major expeditions as well as research carried out at the two marine stations in the Red Sea, Eilat (Israel) and Hurghada (Egypt). Some of the old hand coloured plates are reproduced for the first time and many of their species are readily identifiable today.

NHM - Saturday
27 February 2009

14:00h in the Dorothea Bate Room [Palaeontology Demonstration Room], preceded by Council meeting.

Guest speaker at 14:00h Max Blythe (University of Oxford)
A snail of two cities

Abstract
Investigations at Winnats Pass in Derbyshire in 1966-68 showed a fascinating distribution of *Arianta arbustorum* and *Cepaea nemoralis*, with *A. arbustorum* dominating the main north-facing slope of the gorge and *C. nemoralis* being largely confined to the south-facing one, despite its "food preferences" being on the other.

NHM - Saturday 27 March
14:00h in the Dorothea Bate Room [Palaeontology Demonstration Room], preceded by Council meeting.

Annual General Meeting
Presidential Address by Sebastian Payne
Australian shells and the colonisation of Lord Howe Island

Abstract
The shell fauna of Australia is, by British standards, very diverse. Most families with which we are familiar from European waters are also found round Australia, though the genera and species are usually rather different, and diversity is generally higher. But there are also many representatives of much less familiar tropical Pacific families.

Lord Howe Island is a volcanic island about 400km NE of Sydney; it emerged about 7 million years ago, and is surrounded by water over 1000m deep. The shell fauna of Lord Howe Island casts light