Country folk in former generations were well aware of the ‘magical’ cures provided by gypsies. An instance involving a slug remedy is recalled by Tom Walter in the volume *Best Loved Tales of the Countryside* (published by David & Charles, Newton Abbott, Devon, 2002). It is actually recorded by Brian P. Martin in an article entitled ‘Putting the Queen Second’. Tom recalls the incident in this way:

“This man ‘ad this tapeworm which all the experts couldn’t shift. Then a gypsy told ‘im that the only way was to go out next time it was raining to get one of those big, black slugs. Then he had to swallow the slug after puttin’ it in salt water to get rid of the slime. It worked all right because I saw the tapeworm in the yard. It must have been thirty or thirty-five feet long.”

From Graham Long
Mollusc World

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

We invite all members to contribute to Mollusc World. In addition to the traditional articles, field meeting reports, diary of events and so on, we will include features, profiles, news from recorders, and identifying keys. Do not feel that you have to write long or full page articles. We would particularly welcome short pieces, snippets, pictures, observations, new records, book reviews, mollusc recipes, cartoons, requests for information - anything on molluscs!

Mollusc World will become an important means of staying in touch with the membership and communicating information to the conservation agencies and promoting molluscs to the wider biological community. So, please contribute!

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

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

Please send articles to:
Ian Killeen, 163 High Road West, Felixstowe, Suffolk IP11 8BD UK. Tel: 07973 384366 email: ian@malacserv.deon.co.uk

Society Notes

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

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

The Society’s Web site is at: http://www.conchsoc.org

Subscriptions

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

- Ordinary Membership £23.00
- Family/joint membership (open to two people living at the same address) £25.00
- Institutional Membership (GB and Ireland) £32.00
- Institutional Membership (Overseas address) £35.00
- Student (in full-time education) £10.00
- Entrance Fee for new members £1.00
- Early payment discount (Ordinary, Family and Student Members) for paying the correct amount before 31 March £1.00

Please pay by one of:
- Sterling cheque drawn on a UK bank and made out to “The Conchological Society” to Honorary Membership Secretary: Mike Weideli, 35 Bartlemy Road, Newbury, Berks., RG14 6LD. Tel: 01635 421900, email: membership@conchsoc.org
- Eurocheques are not accepted by UK banks.

Key to meetings:

NHH = Natural History Museum, London, indoor meeting
FIELD = Field Meeting at outdoor location
WSHP = Workshop on mollusc topics
YCS = Turbochets, Soc. Events

Programme Secretary: Ron Boyce, 447c Wokingham Road, Earley, Reading, Berkshire RG6 7EL
Leader: Simon Terry (0208 879 7020) (home)

The grounds of Syon House are just across the Thames from Kew Gardens and contain a large expanse of rich clay flat vegetation with an interesting molluscan fauna. The area is grazed extensively by cattle which has resulted in many deep holes in the ground, so care will need to be taken when working this site. We will be working close to the water’s edge it must be remembered that the river is tidal at this site.

Participants travelling by public transport should meet at 10:00 on Syon Lane station, grid ref. TQ74773 from where we will proceed on foot to Syon Park to meet members travelling by car at the Butterfly House car park, grid ref. TQ74678 at 10:30. Bring wellingtons and a packed lunch.

NHH = Saturday 13 November 14:30 in the Demonstration Room

We welcome as Guest Speaker Evelyn Murdock from Dublin on the subject of ‘News from Ireland - the History of Molluscs and their Conservation in Ireland’. This meeting is held by kind invitation of Stuart North at the Relief House, Pembroke Road, Woking, Surrey GU22 7ED. (01483 76110) from 10:00 prompt until approx. 17:00. Please note Hilbre is a non-smoking property.

Copies of all the above meetings will be available after printing unless booked in advance.

All molluscs, regardless of their status need to be recorded and in a register. The register has to continue to grow.

Mollusc World 5: Mollusc World 5 28/10/2009 16:21 Page 2
The ‘Hood’ of Nautilus Pompilius

Phil’ Palmer

Maybe the following information is more widely known than I suspect, but it came as a surprise to me. Many years ago I came across an underwater photograph of a living Nautilus pompilius, taken by Douglas Faulkner, and published in National Geographic Magazine, January 1976. What struck me was something I had not noticed before, the very different colour patterns on the shell and on the ‘hood’ - the operculum which closes the aperture of the body chamber. People are impressed by longitudinal sections of the Nautilus shell showing the chambered and siphunculate internal structure. Marvelous though it is, the living animal is more interesting.

The first thing that struck me was the familiar reddish-brown, branching and slightly angular, ‘flame’-like pattern, vivid on the top of the shell, but fading on the ventral or lower side of the body chamber, which is a dirty white. For the first time I noticed the pattern on the hood and realised that it is radically different from the colour pattern on the shell. Fig. 1 (see page 5) is Faulkner’s photograph showing a pattern of white spots on a pale-brown ground. What I only vaguely noticed at the time was that the colour pattern of white spots on the hood was also repeated on the tops of the tentacular sheaths, seen below the hood.

It is clear that the pattern of white spots, on the hood and on the tentacular sheaths, is a unifying feature which is very different from the colour pattern on the shell, and it doesn’t need a cladogram to demonstrate that the hood and the tentacular sheaths are more closely related, than either to the shell. The agonicin shell is produced inside the operculum. The operculum is not made of thin material, but usually described as ‘leathery’.

It is true that colour patterns are variable and an unreliable character in many cases but, in this case, I believe that the different colour patterns are significant because they are constant. I have not seen a Nautilus in which the branching flame-like pattern, replaces the pattern of white dots on the hood. The hood always has white dots on a pale-brown ground and, as far as I know, the same pattern of white dots is always present on the tops of the tentacular sheaths. Faulkner’s colour photograph brings this out, but it is also clearly seen on black and white photographs.

The reason for this is now obvious, but it took a careful reading of a paper by H. B. Stenzel (1964) to learn that H. B. Stenzel (1964) had already proposed an explanation for the origin of the hood which made sense of the identical colour patterns present also on the tentacular sheaths. Stenzel offered the hypothesis that the hood of living Nautilus was formed by the fusion of two flattened and greatly enlarged tentacular sheaths, which is why they are ‘leathery’ and not shelly if Stenzel is right then the two tentacular sheaths would have to be the topmost pair on either side of the mid-line, and to be accompanied by degeneration of the thin tentacular arms. Presumably, Stenzel meant that the process was evolutionary and not ontogenic. Stenzel’s hypothesis must also apply to the other two well-established species of Nautilus. If so, then the hood is formed by two tentacular sheaths and, consequently, they share the same colour pattern.

Although three distinct species of Nautilus have been described, Fig. 2, it is the commoner N. pompilius which is familiar to collectors, and the most often photographed, in both monochrome and colour. The colour patterns on the shells of both N. pompilius, and N. macromphalus are the same, consisting of radial, wavy-dashed, and waved branching stripes, as in Fig. 1. But, N. macromphalus has stripes which are fairer, thinner, and more crowded than the other two. Fig. 2 shows the main differences in external shell morphology of the three well-established species. Other ‘species’ have been described, but I am not convinced that they are more than local variants.

References

Denise D. 1976. “The Chambered Nautilus”, National Geographic Magazine, January 1976, pp. 38-41. Several attempts were made to contact Douglas Faulkner for permission to use his excellent photograph - he owns the copyright. But neither I

continued on page 20

The ‘Hood’ of Nautilus Pompilius

Phil’ Palmer

The first speaker was Adrian Sumner, who, devoting one’s attention to this group of molluscs, and pointed out that unlike their recent immigrants has been better documented than the precise details of their spread are not available. Some of these extensions of range were reported in Molusc World Issue 3 (November 2003). Adrian emphasised the great pacity of Scottish records for land molluscs in general, pointing out that it is still not difficult to add a new 10-km square to the distribution of most species. In response to the points Adrian raised, Chris du Feur, a member from the Midlands in Edinburgh at the time of the meeting, was intrigued to note the recent distributional changes and their rapidity, even against the flow of the Forth & Clyde and Union Canals. Are slug distributions changing more rapidly than snail distributions and if so why, he wonders? He notes that observations from other recorders are in line with his own findings. Overall, he hopes that the meeting opportunity to meet other recorders who had hitherto been merely names on paper a valuable experience.

After the coffee break, Shelagh Smith turned our attention to the marine molluscs, and pointed out that unlike their other organisations. These will be announced in due course, and we hope to carry on their discussions afterwards in the restaurant downstairs. Evidently the meeting was very much appreciated, not only for the opportunity of coming together with like-minded enthusiasts. It is hoped that this will be the first of many such meetings, and Adrian reports that already, a programme of indoor and outdoor events north of the Border is being planned, some in collaboration with other organisations. These will be announced in due course, and we hope to see you there!
Visual aids for slug identification

Chris du Feu

From time to time, I have been asked to give talks or workshops about slugs to local naturalist groups or similar groups. It is important that the audience realise there are several different species of slug, belonging to a handful of families. The first thing to do is to give an overview of slug species and how to identify them. Although identifying species is often easy, some individuals, especially for the beginner, are very tricky. Identification of the species on the other hand, is almost always simple so this is the best starting point.

If you have even a medium sized group of people, it can be difficult to teach identification using real slugs. Each one has to be passed from person to person with explanations of important features being repeated many times. Ideally everyone would have their own, identical, slug to look at and all these slugs would behave in exactly the same way as each other at all times. In practice, Murphy’s Law dictates that any slug workshops fail during a very dry spell when slugs are very hard to find. Expecting a collection of identical specimens is not realistic. Photographs or slides seem a good idea but they do have problems. Even if you do have a good slide of a particular species which shows the identification features clearly (not easy to find such pictures), the picture you show will be of an individual slug of a particular species. It may be an atypical specimen and some features (such as colouration) may stand out so much that they detract from the general identification features which are important. What is needed is a collection of large-sized models of representative family members. These models should have the characteristic family features exaggerated in order to draw particular attention to them. You will probably have not noticed any such models on sale in shops. I wonder why? Back to basics – make your own. You can make your own using ‘saltdough’ – a particularly plastic, soft material which is not easy to find such pictures, the picture you show will be of an individual slug of a particular species. It may be an atypical specimen and some features (such as colouration) may stand out so much that they detract from the general identification features which are important. What is needed is a collection of large-sized models of representative family members. These models should have the characteristic family features exaggerated in order to draw particular attention to them. You will probably have not noticed any such models on sale in shops. I wonder why? Back to basics – make your own. You can make your own using ‘saltdough’ – a particularly plastic, soft material which is not easy to find. However, saltdough is very plastic too and remains mouldable for a long time. Instructions for modelling are given in full in the Usborne book ‘You and your child - Playdough’ - an excellent guide whose only fault is the ghoulish omission of instructions for modelling slugs. The only problem in production was material for the tentacles - the dough would be too brittle. Unusually, matches provided a striking solution.

The models were initially left unpainted, mainly because they came out of the oven only just in time for their stage debut. However, they have remained in this unpainted state. Any colour scheme would tend to make the slug look like a particular individual of a particular species and detract from the important identification features of the shapes.

The photograph shows models of typical Molluscs. A well known slug with a full-length keel and stepped mantle. The Denoceras has a characteristic fingerprint pattern on the mantle and a short keel which appears as if it had been made by pinching the beast at its tail - as indeed this one was.

**Saltdough recipe**

Plain flour 300 g
Salt 300 g
Water 200 ml
Cooking oil 1 tablespoon

Mix all the ingredients in a large bowl. Add more water if the material becomes too hard or dry to work. When the ingredients are thoroughly mixed the dough will be pliable. Empties the contents onto a floured surface and knead until the mixture is smooth and elastic.

Saltdough is best made a day before being used. It will keep indefinitely in a sealed plastic bag in a fridge.

After models are made, they must be cooked overnight at no more than 130°C. After cooking the model may still feel a little soft - it will harden with time as any remaining moisture dries in the air.

Fuller instructions are in the Usborne book ‘You and your child - Playdough’ by Ray Gibson and Jenny Tyler, ISBN 0 7460 0465 6

Underwater slugs

Chris du Feu

I had once, previously seen a large yellow slug Linum flavus, eating dog food from a bowl which had been filled with rain water. It managed to keep its head underwater while eating but the respiratory pore, happily at the rear of the mantle in this species, remained above the water level. Thus the animal could breathe whilst eating underwater.

Recently I saw even more startling activity, albeit one the slug indulged in throughout circumstance rather than choice. I had taken the lid off a water butt and there were two half-grown yellow slugs just above the water line. As it was daytime they were inactive but they had clearly been grazing on the abundant algae on the walls of the water butt, above the water line. It seemed a precarious place to roost so I removed one from the butt. Alas, the second one was more slimy and slipped from my fingers, and fell into the depths of the water butt. It was too deep to reach down into the water and I had to leave the slug to its watery death. A few minutes later, on returning to the butt to refill my bucket I saw the slug. It was about 15 cm below the water line, but climbing strongly upwards.

Within a few more seconds it had broken the surface and was safe. I knew marsh slugs, Deroceras laeve, can remain submerged for some time. Can all slugs do this? And how long can they remain submerged without opening the respiratory pore?

Chris du Feu

Limpets

This article was sent by Colin McLeod to the Conchology-uk website and is reproduced for the readership of Molusc World

In August 2002, the late Dave Phillips (SNH Invertebrate Specialist) visited the site of the recently-discovered Vertigo angustior population on the coast north of Stonehaven, with Richard Marriot. During this visit, he photographed a large, apparently anthropogenic, accumulation of limpet shells on the upper shore, extending into the maritime grassland above. Dave reported “Richard thinks that the limpet shells have been historically abundant on this site...Richard suggests that there may have been some historical use of the limpet shells to produce lime. Fragments of limpet (and other shells) are a major part of the soil on which the grass is growing.” A short distance farther north, the Limpet Burn reaches the sea, and a little inland at NO 889 891 there is a building called Limpet Mill, with a Limpet Wood farther upstream.

I feel that, given the effort involved in bashing limpets off rocks, it’s unlikely that they were specially collected for the lime in their shells. I think it’s much more likely that they were collected for bait - or, in earlier times, as ‘famine food’ for humans. Although a secondary use might have been found for the shells as lime, it would surely have been small-scale and local, as Stonehaven Harbour is only 4 km to the south, and received imports of lime throughout the 19th century. The limpet place-names might even be derived from something completely different.

In fact, our ancestors seem to have found limpets more appetising; they are common in prehistoric middens on some coasts, and elsewhere in Scotland, I have found a reference to “a huge mound of limpet shells” at a site in Kilkeel (Kintyre).

Whatever the origin of the shells at Stonehaven, even though they are dead, the area is SSSI and the shells could have an important role in the local ecology, quite apart from archaeological significance, and removing any quantity of them without permission would be illegal.

Similar considerations might well apply at any other sites where similar accumulations occur. For example, if a site has a larger historical accumulation of dead shells than seems possible from the current local limpet population, or if the shells are bigger than present-day limpets, that itself constitutes part of the record of either human history or historical ecology. Signs of damage to the shells caused by collecting or heating would be archaeological evidence; the absence of such clues (suggesting that the shells are a natural accumulation) might still tell us about environmental conditions in the past. It would then certainly be possible to date the shells, and it is not inconceivable that we might one day have techniques that could tell us exactly which beaches the shells originated from. Removing even dead shells in any quantity could damage the scientific record.
This third Journal of Conchology Special Publication comprises the proceedings volume of papers presented at the symposium on Molluscan Biodiversity and Conservation held as part of the World Congress of Malacology (Unitas Malacologica), Vienna, Austria, August 2001.

This publication is not being sent free of charge to members as part of their entitlement. The value of publications currently received by the membership is nearly double the annual subscription. To minimise costs, this publication has been produced digitally to enable a shorter, more cost-effective print run.

Members may order a copy at a special price of £20 inc. p&p.

Institutions and Subscribers may order a copy for £30 until 31 August 2004, and thereafter at a cost of £35 inc. p&p.

Orders accompanied by payment in Pounds Sterling (cheque payable to the Conchological Society of GB & Ireland) should be sent to:
Dr Rupert Honnor, Hilliers, Frieth, Henley on Thames RG9 6RF UK.
Email: rupert_honnor@lineone.net

This publication is not being sent free of charge to members as part of their entitlement.

Members may order a copy at a special price of £20 inc. p&p.

Institutions and Subscribers may order a copy for £30 until 31 August 2004, and thereafter at a cost of £35 inc. p&p.

Orders accompanied by payment in Pounds Sterling (cheque payable to the Conchological Society of GB & Ireland) should be sent to:
Dr Rupert Honnor, Hilliers, Frieth, Henley on Thames RG9 6RF UK.
Email: rupert_honnor@lineone.net

These images relate to specific articles within the magazine.

1. Models of Milax and Deroceras slugs. (Page 4)
2. A Beachcomber’s Breakfast. (Page 7)
3. This picture is of Mike, a Helix aspersa with 5 eyes which Caitlin Potter found in her garden. He was living on sprouting broccoli in the shady part of the garden.
4. Nemocardium bechei. (Page 7)
5. Arion flagellus. (Page 8-9)
6. Nautilus pompilius. (Page 18)

Plate from Michel et al
Molluscs in a Midlands Garden: 1994-2003

The garden of our manse in Rugby (SP512747) was in many ways a typical semi-urban garden. Created out of orchards when the property was built in 1891, it had mellowed brick walls, a massive ash tree at the bottom, a huge silver birch immediately behind the house, and it was bisected by a Prunus hedge which had been allowed to grow over twenty feet high. There was a buried rockery and a wide variety of shrubs. The soil had a high pH content which made it impossible to grow azaleas, etc. To many people that would have been that. But it provided considerable interest for a conchologist.

It held the following species: Cochlicopa lubrica, Lauria variegata, V. pulchella, Discus rotundatus, Arion ater, Limax flavus, Lehmannia marginata, Deroceras panormitanum, D. reticulatum, Trichia hispida, T. striolata, Cepaea nemoralis, Helix aspersa, though with strong support from Planorbarius corneus, Gyraulus crista, though with strong support from Planorbarius corneus. One variegated variety in particular, possibly H. aspersa undulate, would have been destroyed had we not made a nightly inspection on several occasions removing up to 45 H. aspersa, most juveniles, and a number of slugs. Similarly attractive were the flower stems of a species of blue iris grown on the rockery. In the first couple of years we saw very few flowers as the bud stems were cut down when only a few inches high. The attack here was mounted again by Helix aspersa, though with strong support from Trichia striolata. The foliage of the fir apple potato proved a single plant but the red form gorged itself on both leaf and stems which it covered with a heavy mucus discharge.

The population of Lauria cylindracea was large. When we moved in there were over 300 browsing on the algae on the varnished surface of the garage door, and the rockery built up of broken vitrified boiler lining contained huge numbers. Regrettably the renewed cultivation of the garden substantially reduced these numbers but even so a significant population remains spread through most parts of the garden.

Limax flavus could be found on most of the walls and some occupants the crevices around the base of the house walls, from time to time coming under the back door into the rear lobby and toilet. About five years ago we installed rain water catchment tanks including one adjacent to the back door. From that time the number of Limax flavus in that area began to increase. In 2002 the number invading the house had become unacceptable. On three nights I removed 65 slugs to the far end of the garden. That brought the numbers back to an acceptable level but it was clear that there were still many more that could have been evicted.

Two species arrived during our time in Rugby. In 1998 a single Cepaea nemoralis was found on a stem of dogwood. Over the next four years the number increased but not into double figures. However, the various sizes within those present suggested that a breeding population had become established. B. pallens turned up in 1999 in the compost bin but appeared not to survive when it was emptied the following year. Presumably it had come in with a pot plant which was eventually dumped in the compost bin. The similarity of these folds to those on the inside of the Blois staircase convinces Cook that a left-handed genius would have known what such a specimen would have looked like, internally.

Now he summarizes his case. ‘We have stated the hypothesis that the Blois staircase was definitely suggested by a certain shell; this involves that the architect was an Italian; we find further that he must have closely studied shells and leaves in order to try and discover the secret of their growth and beauty; that he was left-handed; that he must have been appointed architect to the King of France; and that he must have lived at or near Blois between 1516 and 1519.’ He refers, of course, to the left-handed volute and draws the inevitable conclusion that the architect of the Chateau of Blois staircase must have been Leonardo da Vinci, ‘who gave this final manifestation of his constructive genius to France’s ungrateful monarch just before he died; who came from those Mediterranean shores where Voluta vespertilio was to be found.’

Cook could not have been more spectacularly wrong. He should have known that this volute does not occur anywhere near the Mediterranean, its range encompassing the waters surrounding the Philippines and Indonesia down to northern Australia. Furthermore, if Leonardo was so interested in shells why did he write so little about them and why are they not portrayed in any of his surviving drawings? There were no European trading posts within the known range of distribution of the species until after 1520, so the possibility of him handling a Cymbiola vespertilio, was remote. Moreover, between 1515 and 1519, the year of his death, he was infirm and partially paralysed. Consequently, although Leonardo da Vinci was fascinated by staircases and, indirectly, may have provided some inspiration for the one at Blois, there is no evidence to show that he was directly involved with its design. Finally, Cook’s conclusions about the Scala del Bovolo, Queen Bertha’s staircase, and the shells that supposedly inspired the builders of them are intriguing but highly improbable. He should have avoided shells and staircases and stayed with horse racing. When he received a knighthood, in 1916, it was more likely to have been in recognition of his History of the English Turf (1901) and his editorship of a sporting magazine, The Field, than of his two books on spirals.
(Fig. 1). It is situated in the Palazzo Cook says of it, ‘I have been tempted to wonder how impressive it really is. He says, ‘In Mollusca, iss 5 28/10/2009 16:22 Page 7
unknown in Europe, his doubts were justified.
accurate to wonder whether the architect of this dextral helix, with its exquisite rising spiral of light archways, could have been the shell so aptly called Scalaria scalari which exhibits exactly the same formation.’ He says that the architect either saw a specimen of the shell (now known as Epitonium scalare, the Precious Wentletrap) or adapted its lines when making his design. As the Scala del Bovolo was constructed in the fifteenth century, when the Precious Wentletrap (Fig. 2) may have been
comparing it with the shell of Voluta vespertilio (now known as Cymbiola vespertilio) (Fig. 6). The staircase he regards as ‘one of the most beautiful designs of its kind in the world’ was built when Leonardo da Vinci was living as a guest of Francis I at Cloux near Amboise, a few miles downriver from Blois. Cook then tries to prove that Leonardo, who died early in 1519, designed the staircase. When he lays out his evidence, however, we realize his knowledge of shells and their geographical distribution is minimal. A former President of the Linnean Society of London had pointed out to him the resemblance between the Blois staircase and the volute. Cook, obviously keen to make a connection between the shell, the famous staircase, and the left-handed Leonardo, realises that the shell has a right-handed spiral whereas the lines of the staircase are strongly left hand. ‘It will therefore be a fair deduction,’ he says, ‘that if the staircase had been copied from a shell it would probably be the rare sinistral form of Voluta vespertilio which furnished the model; while, on the other hand, if the resemblance is merely that between the workmanship of genius and the harmony of Nature, it would probably be a left-handed artist who drew the first design.’
Cook’s deductive powers, already faltering badly, now take flight and soon he is soaring into a conchological Never-Never Land. He begins by ruling out the possibility that a Frenchman used the shell as a model for the design because this particular volute ‘has been unknown for many thousand years in French seas, and the nearest waters in which it is common are on the north-western curve of Italy, along the Bay of Genoa, and southwards.’ He takes

De la Beche’s Cockle
Kevin Brown

Members who have attended indoor meetings during the Society sojourn in the De la Beche Room at the Natural History Museum will have noticed the portrait bust overlooking proceedings from a plinth at the back of the room. Those with a curious disposition may have looked closer at the inscriptions on the bust which read:

‘Henry Thomas De la Beche F.R.S. First Director General of the Geological Survey of the United Kingdom and of this Museum’, and ‘copied by I. Papworth Sen. from the original by H. E. Baily R.A.’

Sir Henry la Beche was an eminent geologist, author of numerous important papers and among other things Founder and First Director of the Museum of Practical Geology in Garmen Street (closed in 1834 and transferred to South Kensington) where the original bust formerly stood. Was there then, I wondered, any connection with De la Beche’s cockle - Nemocardium bechei (Reeve, 1847) - a widely distributed western Pacific species sporadically occurring offshore in waters from 10 - 70 metres deep.

Recently the opportunity occurred to study Reeve’s original description of Cardium bechei. After the Latin description of the shell Reeve continued ‘I have much pleasure in dedicating this species to the desire of Sir Edward Belcher, to Sir Henry De la Beche, Director of the Ordnance Survey and President of the Geological Society.’ Thus, there was a definite connection between the shell and the portrait bust. Interestingly, Reeve later continued ‘Only two odd valves of this pre-eminentiy beautiful shell were obtained,” (i.e. during the voyage of H.M.S. Samarang 1843-1846) ‘and singularly, in localities very remote from each other; one was dredged at the depth of forty fathoms in the Soolose Seas, between the islands of Bornee and Minadania; the other in the Yellow Sea, thirty degrees north, at one of the islands of the Korean Archipelago’. It was to be some 35 years before a complete specimen was known and illustrated in Dunker’s Index Molluxorum Marinum Japonici (Reeve, 1882). A useful reminder perhaps, that when we tend to be dismissive of odd valves of bivalves, these should still be closely examined. Apart from the chance of finding other species attached, the odd valves may themselves be of considerable interest.

References


Beachcomber’s Breakfast
Jan Light

From time to time an early morning foray onto a gravelly shore during low water spring tides yields a welcome bonus in the guise of one or two large Pecten maximus or Aspaepecten opercularis - stragglers from populations offshore, most probably, which have been abandoned by the receding tide. Take the scallop(s) home with the rest of the morning’s samples, but keep them cool and in a separate container in transit.

For a princely breakfast you will need the following:
1 or 2 king/queen scallops
2 slices of black pudding (optional?)
1 lemon or lime
parsley

First scrub the scallops in a bowl of water to remove all the motile organisms, epifauna and associated sediment. Use a knife to scrape off barnacles, worm tubes etc. Set this bowl of water and scallops aside, do not discard! Prise open the scallop by inserting a knife between the valves, ideally when the scallop snaps open so you can detach the adductor muscle from the shell interior of the flat left valve. Once one side of the muscle is detached the shell will gape open and you can detach the meat from the other convex valve using a spoon on the curved surface. Using scissors snip away the black digestive gland, the gills and the mantle edge (frill). If the scallop is very large, halve the muscle but keep the coral (gonad) intact. Now chase the bacon pieces around a pan until the fat runs and the bacon is slightly crisp. (Fry the black pudding quickly on both sides until cooked). Keep on a warm plate. Turn the pan up high, add a bit of oil if needed and round the bacon pieces, sealing on each side and cooking long enough to heat the scallops through but not so long that the meat toughens. Squeeze the juice of half a lemon (lime) over the scallops and season with some salt and pepper to taste. Sizzle for 15 seconds. Now make a pot of tea or coffee. Set up your nice accompaniment.

Now make a pot of tea or coffee. Set up your microscope. Pass the bowl of scallop shell scrapings over a fine sieve, ideally a 0.3mm mesh but certainly no coarser than 0.5mm, then sort the sample and record the associated fauna. Please send me the records!
More on slugs in the Western Isles primarily because of lack of recording since the species was separated. It seems to be the most common of the Arion hortensis agg species in the islands, although I found it only in a few places. Where it was seen it was usually plentiful. Some specimens have been lodged with the Royal Scottish Museum. AS wonders whether it is displacing A. distinctus? I wonder if it is native to this region and A. distinctus is a recent arrival which does not find the conditions sufficiently favourable to become widespread or common.

Arion ater ater Rather surprisingly, these are not abundant everywhere in the islands. Most we saw were of the all black type and I hope to dissect some in the future in order to ascertain whether they are Arion ater ater or A. a. rufus.

Arion flagellus Widespread in almost habitats examined. It was, by far, the most common of the big Arion species. Like AS, I often found it in small groups rather than the more solitary Arion ater. I have also recorded it regularly in Skye, a few other places in western Scotland and, recently, around Edinburgh. It does seem to be spreading west.

Arion silvaticus A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater Rather surprisingly, these are not abundant everywhere in the islands. Most we saw were of the all black type and I hope to dissect some in the future in order to ascertain whether they are Arion ater ater or A. a. rufus.

Arion flagellus Widespread in almost habitats examined. It was, by far, the most common of the big Arion species. Like AS, I often found it in small groups rather than the more solitary Arion ater. I have also recorded it regularly in Skye, a few other places in western Scotland and, recently, around Edinburgh. It does seem to be spreading west.

Arion silvaticus A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the islands south of Harris and Lewis (although we spent only a short time in the Uists).

Arion ater A few seen only, all are new 10 km records because of the separation of this species from A. circumscriptus and A. fasciatus (neither of which I saw). None of the species are common on the islands - there were only seven 10 km records for the aggregate species for the whole of the Western Isles in the 1999 atlas. Arion silvaticus had only previously been recorded from Barra.

Arion distinctus Only eleven 10 km records for the aggregate species were given in the 1999 atlas for all the Western Isles. I only found one individual of this species and it was in woodland in Stornoway, well within the area of human disturbance. I wondered whether it would be more likely to be found in private gardens on the islands - on the mainland it is persistently abundant in gardens. It is not easy to hunt slugs in private gardens when on holiday, but when I did manage all I found of the Arion hortensis aggregate was Arion oweni.

Arion oweni All records of both AS and mine are new to the
The *Nerita* of South Africa continued

period of time. Unfortunately Bandel found some species only in the Umzamba and the Myxameni, a river a few miles further south. Of these *Nerita auriculata* Lamarck, 1816 is recorded by Brown (1994: 40) from Madagascar but not from Africa, Clithon coronatus (Leach, 1813) was found by Bandel and, although several species of Clithon are listed from Madagascar and other islands, this genus had not previously been recorded from Africa (Brown, 1994: 43). Bandel also found both Septaria borbonica (Bory de St. Vincent, 1803) and Septaria porcelana (Linne, 1758) whereas Brown only listed *S. borbonica* and commented that it was probably already extinct in Africa as a result of habitat disturbance (1994: 45). Finally *Nerita* coníssim Martens, 1879, recorded by Bandel, had previously been found in Madagascar, Mauritius and other islands but not Africa (Brown, 1994: 45). It appears, therefore, that these species had a very limited distribution in Africa and if, as seems likely, their only populations there have now been destroyed, they may never return.

Low cliffs at the mouth of the Umzamba River form the type section of the Upper Cretaceous Umzamba Formation (age: very roughly 80 million years). Rich shell beds within the section contain well preserved specimens of a wide variety of molluscs including two *Nerita* species and, in the limited collecting time available, I was fortunate to find both *Nerita* kaffarina Woods, 1906 and *Nerita* umzambiensis Woods, 1906. The shell of *N. kaffarina* is smooth; apart from growth lines, highly polished and very similar in shape and size to the **Nerita** kaffarina Woods, 1906. The shell of **Nerita** umzambiensis closely resembles that of a juvenile *Volutes*, an extinct genus which ranged from the Upper Cretaceous to the Eocene (Keen in Knight et al., 1960: 285), and it seems likely that *”Nerita” umzambiensis* belongs to this or another extinct genus rather than to the genus *Nerita*.

References:


Plate:

1. Nerita abicula, Southbroom, KwaZulu-Natal. a. apertural, b. apical, views (x 2), c. operculum, outer side, d. inner side (x 2).

2. Nerita plicata, Mission Rocks, KwaZulu-Natal. a. apertural, b. apical, views (x 2), c. operculum, outer side, d. inner side (x 2).

3. Nerita polyta, Southbroom, KwaZulu-Natal. a. apertural, b. apical, views (x 2), c. operculum, outer side, d. inner side (x 2).

4. Nerita umzambiensis, Ulungo, KwaZulu-Natal. a. apertural, b. apical, views (x 2), c. operculum, outer side, d. inner side (x 2).

5. Nerita textilis, Margate, KwaZulu-Natal. a. apertural, b. apical, views (x 1.5), c. operculum, outer side, d. inner side (x 1.5).

6. Nerita unotasa, Mission Rocks, KwaZulu-Natal. a. apertural, b. apical, views (x 1.5), c. operculum, outer side, d. inner side (x 2).

7. Nerita kaffarina, Upper Cretaceous, Umzamba Formation, mouth of the Umzamba River, Eastern Cape. a. abapertural, b. apical, views (x 2).

8. "Nerita" umzambiensis, Upper Cretaceous, Umzamba Formation, mouth of the Umzamba River, Eastern Cape. apical view (x 2).


daylight of a long, strong dried muscus thread where a pair had been hanging there, copulating. Because it is a large slug with striking coloration, the lack of observations (Atlas, AS and mine) must show it is generally uncommon in the Western Isles.

**Linum flavus** The only previous record in the Western Isles is from Barra. The adult specimen seen at Lewis Castle grounds in Stornoway was very clearly marked and definitely the ordinary yellow slug rather than the Irish yellow slug (*L. maculata*) which is sometimes found in the west of Britain. Although it was found in woodland, it was within a few fathoms of the visitor centre - not surprising because of its strong association with human habitation.

**Lehmannia marginata** I expected this to be widespread and common - the climate is certainly wet enough. AS only found it in the Lewis Castle woodland, I found it there too. I also found it in three other places, in all of which it was associated with vertical rock faces rather than trees. The most interesting observation was of one specimen climbing on an isolated rock face in the middle of sheep-grazed grass moorland near Gersmanin. This 'rock face' was on a half-buried boulder with only 20 cm projecting above the grass level with not a tree in sight, the nearest big rocky outcrop was tens of metres away. In

Less wet parts of Britain the species could not be found in habitats with so little tree cover or a lack of tall vertical rock surfaces.

**Deroceras panomitanum** It is clearly fairly long established in the Western Isles because it can be found in a wide variety of habitats - disturbed and remote, seaside and inland, not just those subject to high levels of human disturbance. I found it in both the far north of Lewis and as far south as southern Barra. It could not be more much more widespread than that. I agree with Adrian about the excitement of finding species where they have not been recorded before. He pointed out that there are still many more vacancies on the mollusc distribution maps of the islands (and elsewhere too). It is apparent that distributions of some molluscs are changing very rapidly indeed - possibly related to climate change or to changing patterns of human behaviour. Searching for slugs well away from areas where they have been recorded often provides new records. Combined observations from many recorders can combine to give a better overall picture of how our fauna is changing.

Chris du Feu

66 High St. Beckingham Nottinghamshire

DN10 4PF Tel: 01427 848400

e-mail: chris@beckinghamO.demon.co.uk
In October 2003 I went to South Africa on holiday with my wife with the main objective of visiting game parks; there were, nevertheless, some opportunities to look at marine life on the east coast. Our first contact with the sea was at St Lucia, in northern KwaZulu-Natal. The coast around St Lucia consists mainly of long stretches of sand but a low cliff at Mission Rocks provides a suitable habitat for rock-dwelling molluscs. Nerita (Reina) plicata Linné, 1758 was fairly common, scattered in the splash zone on rock surfaces facing away from the full force of the waves; all the specimens, which I saw, were white or pale pink in colour (Fig. 2). At a slightly lower level, just below high water-mark, Nerita (Cymostyla) undata Linné, 1758 occurred in small colonies wedged tightly together in damp crevices facing away from the sea. Although N. undata is a common Indian Ocean species it is probably near the southern limit of its range in northern KwaZulu-Natal and I did not find it south of Durban. As the tide was already coming in when I reached Mission Rocks, I was unable to work the lower shore satisfactorily and I only found one specimen of Nerita (Theelostyla) albicilla Linné, 1758, a common lower shore species, under a rock below water. I was unable to find any of the brackish water Nerites. However we had set aside a day to investigate the estuary of the Umzamba River, just south of the border between KwaZulu-Natal and Eastern Cape, where seven species of Nerites had been recorded by Bandel (2001: 98). The estuary of the Umzamba extends inland for some three kilometers and it took us most of the day to explore it with frequent detours necessitated by cliffs, swamps and other obstacles. Unfortunately there was no trace of Nerites or, indeed, of any other molluscs and when we eventually reached freshwater above the estuary the river was devoid of life and apparently polluted. This may have been pollution which had occurred since Bandel’s visit or existing pollutants may have been drastically reduced water flow during the drought. Since our visit the drought has ended with heavy rains in KwaZulu-Natal and it would be a useful study to monitor rivers like the Umzamba to see whether molluscan life returns and, if so, which species and over what