

Mollusc World

July 2016 • Issue 41

**Beachcombing and shells
in Wales**

Archaeology
Shell beads and a cave
assemblage

**Mollusc Conservation
and recording**



The
Conchological
Society
of Great Britain & Ireland

Helping to understand, identify, record and conserve molluscs

From the Hon. Editor



This issue will reach you during the summer season when many of us will be taking the opportunity to observe and record nature where we live and further afield. Autumn and Winter months may seem a little way off but I would encourage you to remember your magazine when it comes to sharing anything interesting about molluscs that you have discovered.

The inclusion in this issue of reports from our conservation and recording officers emphasises the important contributions that can be made by us all, however small, to the understanding of molluscs, their status, distribution and conservation needs. Every record is important; as is every practical contribution you can offer towards the work of your Society.

The inclusion in *Mollusc World* of articles relating to archaeology and shells in art and design are examples of the wide areas of interest that molluscs can encompass. Hopefully this magazine, and this Society, will continue to reflect this range in our activities and publications; only possible, as ever, with our individual involvement. Finally, attending an indoor meeting (mostly in crowded London) in the winter months may sometimes seem like too much effort, but those who are able to come gain much and hopefully have an enjoyable time in a relaxed atmosphere. We especially look forward to our upcoming regional meeting this year in Cardiff. Suggestions for subjects and speakers at these meetings are always welcome (see page 35).

Peter Topley

Mollusc World

This magazine is intended as a medium for communication between Conchological Society members (and subscribers) on all aspects of molluscs, in addition to the material found on our web site where a number of back copies are available for viewing. Hopefully *Mollusc World* will also be of interest to all those enquiring about this subject or the work of the Society.

We include articles, meeting reports, research news, results from the mapping schemes and identification aids. We welcome all contributions in whatever form they arrive (see page 34 for further details).

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Front Cover: Winkle (*Littorina* spp.) trails on rocks, made visible by the attachment of suspended particles of silt to the sticky mucus. Rest Bay, Porthcawl (see page 27) (photo: June Chatfield)

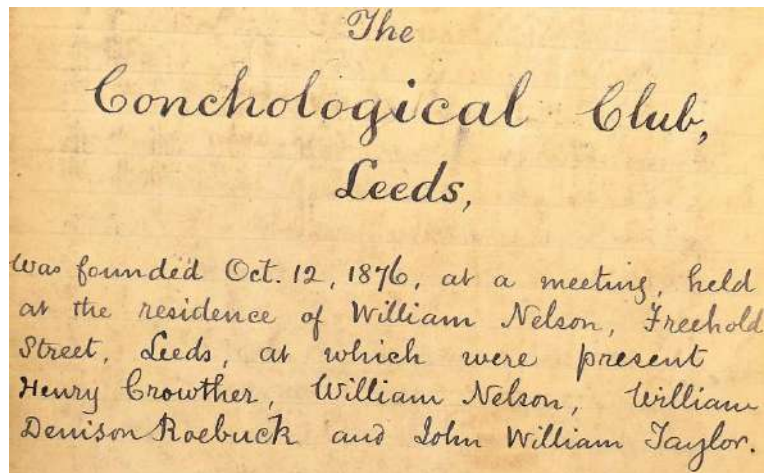


The
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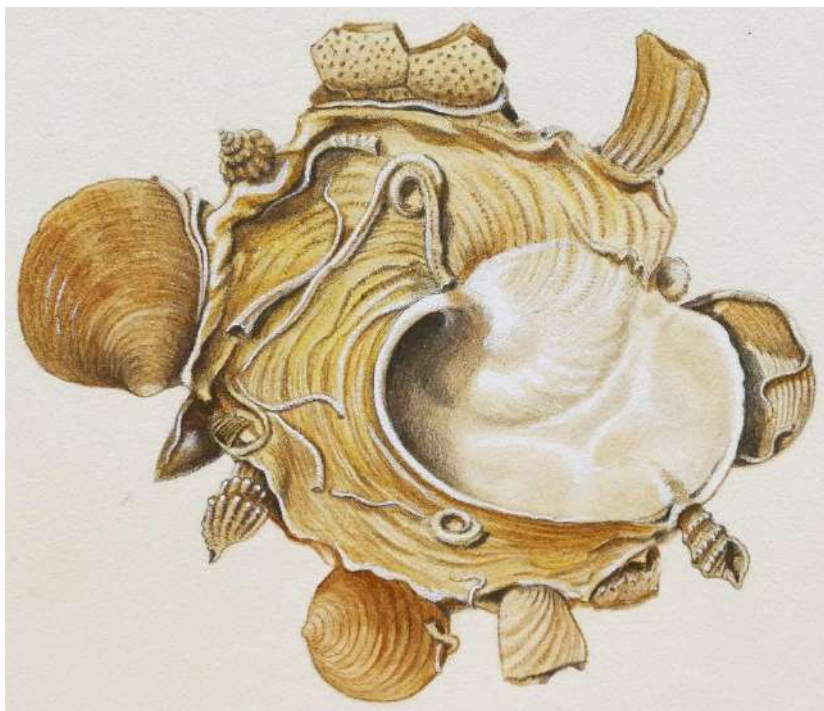
The 12th October this year will mark the 140th birthday of this Society (initially named ‘The Conchological Club’, see right from the original minute book). Two histories of our Society have been previously published, but the most recent was written over 40 years ago (Jackson, 1927 and Crowley, 1975) and it is hoped that at some stage in the future an updated history might be produced. Both of these published histories relied in no small part on access to the Society’s archives. These are held at the West Yorkshire Joint Services Archive (WYJS), Nephshaw Lane South, Morley, Leeds, LS27 7JQ; in the city of our foundation. The archives hold complete runs of the *Journal of Conchology* and other publications including the *Conchologists’ Newsletter* and *Mollusc World*. But equally importantly, the archive holds the minute books of the Society, beginning from the very first meeting held at the home of William Nelson in 1876. These items are only a very small part of the archive which also includes many letters and photographs by and of conchologists of the past as well as secretarial correspondence and specific items (e.g. from working papers of J.W. Taylor for his *Monograph of the Land and Freshwater Molluscs of the British Isles* (1894–1914) to late 20th century marine census records and archives from A.E. Ellis and B. Verdcourt). A full summary list of what is in the archive can be accessed by going to the WYJS website at <http://www.archives.wyjs.org.uk/>, clicking on ‘Catalogue’ and searching under the catalogue finding number WYL824. A pdf of the almost complete (apart from recent additions) catalogue can also be downloaded from this site.



Parts of the archive are in need of more detailed cataloguing and possibly some sifting of material in the future. Some work was carried out in this area by members including Nora McMillan in the late 1900s and more recently by Adrian Norris. Requests on how to go about viewing any items in the archive at the modern facility in Morley (which includes registering in order to obtain a reader’s ticket and complying with their Searchroom Guidelines) may be made by contacting the archivist on 0113 393 9788 or by email at leeds@wyjs.org.uk. All items in the archive are the property of Conch. Soc. and the Society should be duly acknowledged where an image of any item is reproduced elsewhere.

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From the archive. Left: original watercolour of a carrier shell (*Xenophora*) by Guy Wilkins (1905–1957). Wilkins trained and worked as a commercial artist before joining the Natural History Museum in London in 1949, where he curated the shell collection. He was this Society’s President in 1950–51. Right: a rare photograph from 1870 of the Australian conchologist of French birth, Sophia Rossiter (c.1844–1882). Her brother, Richard Rossiter (1841–1903) and husband John Brazier (1842–1930), photos of whom are also to be found in the archive, were also important conchologists of the period and John named several species in his wife’s honour, including *Semicassis sophia* (Brazier, 1872). A note on the back of the photograph says that Sophia’s dress was blue.

Two prehistoric land snail assemblages from the Yorkshire Dales

Terry O'Connor

Archaeological excavations in calcareous places quite often encounter snail shells, typically in rather slowly formed deposits in dry valleys or in man-made features such as pits and ditches. These shells may just be chance inclusions of little information value. Sometimes, however, they give us a snapshot of the malacofauna of a particular place at a known time in the past, and that in turn may reflect something of the prevailing environment at that time. Malacologists such as A.S. Kennard, M.P. Kerney, John G. Evans, Martin Bell and Mike Allen have helped to give our prehistoric past a detailed environmental context, as well as giving greater time-depth to our knowledge of the UK's malacofauna.

As an archaeologist who works with cavers, I am used to being presented with lumps of bone, usually discovered in some dark and muddy shaft deep under the limestone of the Yorkshire Dales. Just occasionally, the bones are accompanied by mollusc shells, and sometimes those accumulations clearly represent a genuinely ancient sample of snails. This note reports two recently studied assemblages that have given me food for thought. In both cases, the shells were recovered by systematic sieving and sorting of cave sediments, a labour of love undertaken with great patience and consummate skill by John Thorp.

Both examples come from caves in the western Yorkshire Dales, in classic glaciokarst scenery where the Carboniferous Limestone bedrock is riddled with cave and shaft systems. Most of those caves are phreatic systems of great geological antiquity, but the clays and rubbles that part-fill them mostly date from the Late Pleistocene and Holocene – the last 18,000 years. Archaeological deposits are usually encountered either near the entrance of 'walk-in' caves, where a space not far underground has been used by people in prehistory for burial of the dead or other purposes, or deep in shafts, where material originally nearer to the surface has slumped and fallen deeper into the system over time.



figure 1: Thaw Head cave under light snow. (photo: John Thorp)

Thaw Head cave is a 'walk-in', located in the limestone cliffs of Twistleton Scars, north-east of the town of Ingleton (figure 1). The cave is well-known for its archaeology, mostly dated to the later Neolithic and Bronze Age. The snail sample was from a layer associated with Grooved

Ware pottery, and probably dates to the later Neolithic period, a little after 5000 years ago. The shells appear to have accumulated just inside the original cave entrance, probably then slumping a little further into the cave as part of a mass-movement of sediment.

Norber Cave, near Austwick and just a few miles south-east of Thaw Head, is an example of a shaft, investigated by the Earby Pothole Club in their Last of the Summer Wine dig, named for the average age of the participants. The shaft is quite complex, and has yielded archaeological remains at several levels. The snail sample came from excavation level 12, well-sealed at the base of about 4 m of deposit within the Upper Shaft. The sample was associated with a number of flint and chert artefacts, scalene microliths typical of the Late Mesolithic in this region, and therefore broadly datable to around 7000 years ago. The stratified sequence of deposits in the shaft probably represent a series of inputs of sediment that originally accumulated in the shallow depression ('doline') around the shaft entrance. These sediments periodically became destabilised and slumped into the shaft below.

Table 1 lists the taxa identified in these two samples. I have attempted a semi-quantitative indication of relative abundance simply to make the point that some taxa were predominant in either sample, and some were represented by just the odd shell or two. It is worth noting that the great majority of shells from both samples were in good condition, with little sign of erosion or abrasion, and both samples included numerous juveniles. It is unlikely that differential destruction of shells has significantly affected these two samples.

The first point to make is that these are quite diverse samples, especially for Thaw Head. Karst limestone country offers a complex network of habitat patches, amongst which the characteristic limestone pavements may be surprisingly productive. Although the exposed, flat 'clints' would be challenging for any invertebrate, the dark, dank 'grykes', with their distinctive plant associations, are ideal for snails. In a survey of snails and slugs on limestone pavements in the same part of the Dales, Sue Willis, University of Chester, found totals of 36 taxa at Scar Close and 30 at Colt Scar Wood. Both of these caves will also have had some rock-rubble habitat: the screes of Twistleton Scars for Thaw Head, and the eroding doline around the top of the shaft at Norber. It is therefore no surprise that species typical of limestone rubble habitats are seen in both samples, but are a more conspicuous element in the sample from Thaw Head. Norber lacks *Azeca goodalli* and *Abida secale*, both uncommon in Yorkshire today and particularly characteristic of open woodland or scrub on limestone rocks, and *Pyramidula rupestris*, which is a specialist rock-rubble species. On the other hand, *Oxychilus* species predominate at Norber. This may reflect the association with bones of contemporary animals, perhaps showing that animal corpses were colonised by scavenging zonitids before their incorporation into the shaft sediments (figures 2 and 3).

Compared to modern faunas from the Dales, the presence of ancient woodland indicators such as *Spermodea lamellata*,

Leiostyla anglica and *Acanthinula aculeata* stands out, as does the relative scarcity of *Lauria cylindracea* and of helicid snails generally. The prevailing impression is that both caves were in a more wooded landscape, with the earlier sample from Norber particularly indicating the nearby presence of mature woodland with plenty of litter. Species of open grassland, such as *Pupilla muscorum*, *Vertigo pygmaea* or *Vallonia* species are conspicuously absent.

table 1: Molluscs from Thaw Head cave and Last of the Summer Wine shaft, Norber.

	Thaw Head	Norber
<i>Acicula fusca</i>	R	-
<i>Carychium</i> sp(p)	O	O
<i>Galba truncatula</i> R		R
<i>Azeca goodalli</i>	O	-
<i>Cochlicopa</i> sp(p) C		A
<i>Pyramidula rupestris</i>	O	-
<i>Columella aspera</i> O		R
<i>Vertigo pusilla</i>	R	R
<i>Vertigo substriata</i>	R	R
<i>Vertigo alpestris</i>	-	R
<i>Leiostyla anglica</i>	R	O
<i>Lauria cylindracea</i>	O	-
<i>Abida secale</i>	C	-
<i>Acanthinula aculeata</i>	O	O
<i>Spermodea lamellata</i>	-	R
<i>Merdigera obscura</i>	R	-
<i>Cochlodina laminata</i>	R	-
<i>Clausilia bidentata</i>	O	C
<i>Clausilia dubia</i>	O	-
<i>Arianta arbustorum</i>	O	R
<i>Cepaea nemoralis</i>	F	R
<i>Trochulus striatus</i>	F	-
<i>Trochulus hispidus</i>	F	R
<i>Punctum pygmaeum</i>	O	R
<i>Discus rotundatus</i>	A	A
<i>Euconulus alderi</i>	O	F
<i>Vitrea contracta</i>	O	C
<i>Vitrea subrimata</i>	O	-
<i>Oxychilus cellarius</i>	C	A
<i>Oxychilus alliarius</i>	F	A
<i>Nesovitrea hammonis</i>	F	F
<i>Aegopinella pura</i>	F	C

Quantification follows: A, Abundant; C, Common; F, Frequent; O, Occasional; R, Rare.

Cochlicopa spp. certainly includes typical *C. lubrica* and typical *C. lubricella* in Thaw Head sample, and a range of morphologies but less clear distinction in Norber.

Euconulus specimens from both sites all show regular spiral striations on the base of the shell, hence their attribution to *E. alderi* rather than *E. fulvus*.



figure 2: *Aegopinella pura* from Norber. (photo: Sonia O'Connor)



figure 3: *Abida secale* from Thaw Head. (photo: Sonia O'Connor)



figure 4: *Clausilia dubia* from Thaw head, showing the characteristically coarse rugosity. (photo: Sonia O'Connor)

The presence of *Clausilia dubia* (figure 4) and *Vitrea subrimata* at Thaw Head is significant as these two species are more or less restricted to the northern Yorkshire Dales today. The next nearest populations are on rocky limestone landscapes in continental Europe. Their modern distribution centres around Reginald Farrer's former garden at Clapham, within a few miles of both of these caves, and it is possible that he might have inadvertently introduced both on plants from Continental European mountains. The presence of both at Thaw Head shows that they are genuinely endemic. Their absence from Norber may show that both species are typical of scree and rocky habitats, and that this habitat was limited in extent and perhaps quite isolated at Norber. *Vertigo alpestris* was recorded in the Norber sample. National Biodiversity Network (NBN) records show this species at a number of modern sites in the northwestern part of the Yorkshire Dales.

In all, the two samples confirm other evidence that this part of northern England carried more woodland cover in prehistory than is thought to be typical of it today. The persistence of diverse snail faunas in grykes, often in the company of woodland plants, may be a relic of this former landscape (figure 5). These snail samples are found occasionally and unpredictably as cavers and cave archaeologists delve into the Dales landscape. By showing an interest and explaining that the snails are of some real information value, we can make it more likely that further samples will be carefully recovered with good provenance. We might even get some cavers interested in molluscs!



figure 5: A typical limestone pavement gryke, providing a damp, shady and well-vegetated microhabitat for mollusca.

Acknowledgements

I am grateful to John Thorp for bringing these assemblages to my attention and for the image used in figure 1, and to Sonia O'Connor for the digital microscope images in figures 2 to 4.

A sinistral *Ashfordia granulata* (Alder, 1830)

Adrian Brokenshire

Whilst on a short holiday on the Roseland Peninsula, South Cornwall, I collected marine and land molluscs from a number of sites that were accessible to me on a short stay.

One site where I collected land shells was the base of a hedge bordering the path down to Towan beach (SW869320). I had a rummage around and noted good concentrations of small shells in the sandy (windblown) soil, humus and leaf litter and decided not to pick on site but take a sample home for future sorting.

Once home the sample was cleaned, sieved and graded for sorting under my microscope. there was a reasonable range of small common snails including many *Ashfordia granulata* with adults, juveniles; fresh and long dead shells. Whilst picking out a range of sizes and looking for adult shells that were still hairy one specimen suddenly caught my attention. I couldn't believe it at first and kept moving it about to look at it from all angles; YES, it was a left-handed (sinistral) specimen (figure 1), the first I have seen or collected myself of a species that ordinarily should be right-handed (dextral).

So I thought this is certainly worth a few words in *Mollusc World* in which to share my excitement at something rare and unusual. Details of all the land and marine shells collected in Roseland have been sent to the relevant Recorders.



figure 1: A sinistral *A. granulata* from the Roseland Peninsula, Cornwall. (photo: Peter Topley)

Some of the highlights of recent years have occurred over the winter period, so tend to be split between the end of one year's report and the beginning of the next. The cause is winter storms in the Atlantic battering our western and southwestern coasts and, as detailed in last year's report and more recently by Jan Light (*Mollusc World* 40, p.22), creating a transatlantic flow of flotsam from the eastern seaboard of North America and, possibly, the Caribbean. While much of the flotsam is plastic, it is nevertheless often colonised by epifauna, particularly goose barnacles but also cemented bivalves, pelagic colonists and the occasional incidental passenger.

The nature of the flotsam often presents significant clues to its origin, particularly if it is labelled with the name of the fishery to which it belonged before drifting across the ocean. As Jan describes in her *Mollusc World* piece, and as is detailed in the book she was reviewing at the time and the related Facebook groups, the sheer variety of flotsam items is staggering. One of the more traceable items in 2015 was a section of a space rocket, the SpaceX Falcon-9, which unfortunately had exploded just after launch at Cape Canaveral in Florida on 28th June 2015. The large section of fuselage, some 10 metres in length, washed up on the Isles of Scilly in late November and so not only provided evidence of the speed of transatlantic flotsam transit but also of which species are first to colonise fresh material and, potentially, the route taken inferred by the variety of species present. Unfortunately, all the biological evidence was removed with a pressure washer before any biologists were able to examine it (also meaning that instead of drying out on the beach, any potential invasive species were washed straight back into the sea).

The rafting species of the 2015 winter season started arriving in early November with finds made on flotsam washed up on the southwest and southern English shores. As usual Steve Trehwella in Dorset and David Fenwick in Cornwall were at the forefront, and the first finds were of the encrusting bivalve species which were being found the previous winter: *Chama* (probably 3 different species) and *Isognomon* (*I. bicolor* (C. B. Adams, 1845) and *I. radiatus* (Anton, 1838) (figure 1)). In some cases, the identifications were referred to workers in the south eastern USA with more experience of what are their native species, although anybody who has worked with *Chama* in particular will know how difficult they can be to identify with confidence.



figure 1: *Isognomon radiatus* (Lister's tree oyster, or the radial purse oyster), Cornwall. (photo: David Fenwick Snr.)

The primary encrustation of most long-distance flotsam is goose barnacles, of several species, often providing habitat for the pelagic specialist Columbus crab, *Planes minutus* (Linnaeus, 1758). As well as the bivalves mentioned above, occasional gastropods manage to raft across with them. A

specimen of the Caribbean *Cerithium litteratum* (Born, 1778) was reported in the previous year's storms by Rosemary Hill of Co. Kerry, Ireland. Her specimen was in a bait jar, a frequent transatlantic 'macro-litter' type, another of which provided no less than ten specimens when found by Tracey Williams in Watergate Bay, Cornwall on 23rd November 2015 (figure 2). As with the majority of the rafted finds, the ceriths were all dead, therefore slightly easing fears of an alien introduction by this vector, albeit that the frequency of rafting is being significantly increased by the volume of man-made flotsam and by changing climate patterns.



figure 2: *Cerithium litteratum* Watergate Bay, Cornwall. (photo: Tracey Williams)

In December 2015, however, a live specimen of the Muricid *Stramonita haemastoma* (Linnaeus, 1767) was found by Andy Dinsdale amongst goose barnacles on flotsam washed up at Dungeness in Kent. The find was initially identified by Steve Trehwella and is thought to be a first for the UK although it was not the last as Steve himself found four specimens, again live, very soon after amongst goose barnacles on a buoy washed up in Dorset (figure 3). These specimens were accompanied by egg capsules on the substrate, although they seemed to have been long since dried up. The species is quite widespread but exhibits variation and the specimens found seemed again to have originated from the SE USA. It is thought unlikely that they could survive and breed on the British coast but with further subsequent finds from Dorset, Cornwall and Ireland it seems they are making it here in significant numbers such that if there were any possibility of them establishing, even across a limited range, then there is every chance of it happening.



figure 3: *Stramonita haemastoma* washed up in Dorset. (photo: Steve Trehwella)

Further Caribbean rafting species confirmed in the flurry of activity associated with the winter storms at the end of 2015 are the bivalves *Pinctada imbricata* Röding, 1798 and *Dendostrea frons* (Linnaeus, 1758), first encountered by David Fenwick from flotsam stranded on Cornish sites, the latter also on a buoy found by Rosemary Hill washed up at Ballinskelligs, Co. Kerry. Rosemary's find was also harbouring another species thought to be a first record for the eastern Atlantic coast: a small specimen of what Americans often call the "turkey wing", *Arca zebra* (Swainson, 1833).

Facebook continues to play a very important role in disseminating such interesting finds and providing a forum for discussion and the exchange of information, particularly via several dedicated specialist groups. The flow of reports, comments and images can be almost overwhelming at times but it is one of those facilities which quickly makes one wonder how one coped without it. The Society certainly benefits in terms of the networking of data and records and has also gained a handful of new members in the process.

Opisthobranch reports and records have certainly been facilitated by Facebook and the excellent 'NE Atlantic Nudibranchs' group continues to flourish. It has been noted in previous reports that advances in diving and photographic technology have massively improved the recording of seaslugs but in 2015 the shore workers demonstrated it is still possible to make impressive finds, particularly in the right habitat. Again, David Fenwick was to the fore, conducting a fascinating study of the nudibranch fauna of Newlyn marina. David's technique was simply to wash and shake selected algae samples and to microscopically examine the resulting detritus. It proved effective in what is evidently a rich locality, with over 25 species records on one occasion from several hundred specimens, all collected in a three-hour period which included, to quote David, 'numerous coffee breaks'. It sounds like the nudibranch equivalent of working shelly grit and produced notable records of, among many others: *Doto koennekeri* Lemche, 1976; *Facelina annulicornis* (Chamisso & Eysenhardt, 1821); *Hancockia uncinata* (Hesse, 1872), which David also recorded from nearby Albert Reef, thought to be the second and third records of the species for Cornwall; and *Janolus hyalinus* (Alder & Hancock, 1854).

David also found in the marina the sacoglossan *Placida dendritica* (Alder & Hancock, 1843), an infrequently recorded species but one which has presumably been continually present in that area since there are nearby Victorian records. In Newlyn harbour David recorded *Doto dunnei* Lemche, 1976, confirmed by the always helpful Bernard Picton (*Doto* species can be very difficult to separate) while across the bay at Battery Rocks he found the equally scarce *Doris ocelligera* (Bergh, 1881), although as a species this seems to have had a relatively good year in 2015 (figure 4). Yet another unusual record David picked up was the small and largely translucent nudibranch *Trapania pallida* Kress, 1968. This was from an intertidal pool at Marazion, which is interesting as *T. pallida* is very rarely recorded intertidally and yet the Marazion pools have something of a reputation for producing such records. Given that molluscs are only a part of David's intertidal recording efforts, it should come as no surprise that he was selected to receive the National Biodiversity Network's David

Robertson adult award for marine and coastal wildlife recording in 2015.



figure 4: *Doris ocelligera*, Newlyn, Cornwall (length <25 mm).
(photo: David Fenwick Snr.)

Also in the southwest, Rob Durrant has been working assiduously to record the extensive fauna of his local patch of rocky shore in north Devon. Like David in Cornwall, Rob made some notable nudibranch finds during 2015 including *Geitodoris planata* (Alder & Hancock, 1846), *Doto millbayana* Lemche, 1976 and *Doto onusta* Hesse, 1872 (figure 5). The latter highlighted some ongoing controversy within the taxonomy of *Doto* species, particularly as Rob generally submits his findings via the online iRecord portal, which did not offer *D. onusta* as an option. Rob also found the much less confusable *Rostanga rubra* (Risso, 1818) which although known to occur intertidally is rarely seen other than by divers (figure 6). Coincidentally there were several diver records of the related and rather attractive species *Rostanga rosi* (Ortea, 1979), the distribution of which seems to have been creeping north into southern British waters since the turn of the millennium.



figure 5: *Doto onusta*, north Devon. (photos: Rob Durrant)



figure 6: *Rostanga rubra*, north Devon (length <15 mm).
(photo: Rob Durrant)

Jim Anderson, webmaster of www.nudibranch.org, an excellent website which well repays a visit, continued to make numerous dived observations which he kindly reports to the Society, although you will note from the website, if you visit it, that UK (mainly Scottish) nudibranchs are far from his only focus of interest. 2015 Scottish highlights for Jim included the not uncommon but very difficult to spot *Lomanotus marmoratus* (Alder & Hancock, 1845), which is one of those species where you tend to find the host hydroid and then look for the mollusc (figure 7); yet another *Doto*, this time *D. sarsiae* Morrow, Thorpe & Picton, 1992; *Onchidoris* [now *Knoutsodonta*] *depressa* (Alder & Hancock, 1842); and most excitingly, from Loch Nevis, an unidentified *Knoutsodonta* which could very well be an as yet undescribed species (figure 8). Jim's wonderful photographs of all these sightings are on his website.



figure 7: *Lomanotus marmoratus* (length 28 mm), Dodo's Rocks at 17 m, Scapa Flow, Orkney Islands.
(photo: Jim Anderson)

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figure 8: *Knoutsodonta* species A. (length 8 mm) On kelp blade at 8 m, East Wall, Loch Nevis.
(photo: Jim Anderson)

The Society's very successful week-long field excursion in NW Wales has already been widely reported (*Mollusc World* 40, pp. 3-7) but mention is worth making, returning again to the intertidal nudibranch theme, of the finds made in the Menai Strait. Before the trip, Ian Smith had been enthusing about sites there which he knew from his long experience of the area to be potentially rich in nudibranchs so when the day came to visit that area Ian led a small group to one of these marks. The primary target was cobbles with a rich hydroid turf but these proved rather elusive, so instead samples were taken of a variety of algae and whatever hydroids and bryozoans could be found, for subsequent microscopic examination. Ian carried this out with his usual rigour and was rewarded with a tally of eleven nudibranch species, including *Doto koenneckeri* Lemche, 1976; *Aeolidiella alderi* (Cocks, 1852), a first for Ian and a notable N Wales record; and the always delightful *Thecacera pennigera* (Montagu, 1815) (figure 9), on the bryozoan *Bugula* with which it is associated. While mentioning Ian, attention should again be drawn to his superb species accounts available online on Flickr: www.flickr.com/photos/56388191@N08/collections.

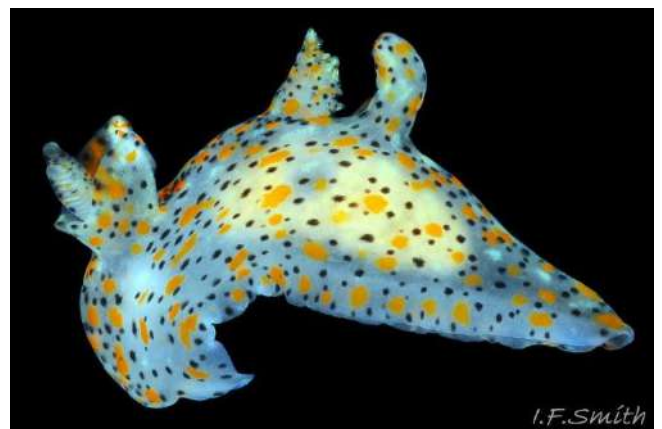


figure 9: *Thecacera pennigera* (length 11.5 mm), Mennai Strait, Wales.
(photo: Ian Smith)

The Welsh trip produced a good variety of new and interesting records and huge thanks go to Bas Payne for his enormous efforts in arranging and organising the event. Offshore grab samples continue to be processed but have yielded some nice finds, including the rather scarce bivalve *Saxicavella jeffreysi* Winckworth, 1930 (figure 10) and the Pyramidellid *Tragula fenestrata* (Jeffreys, 1848), rarely encountered but evidently not unusual in the northern part of Cardigan Bay. Llandwyn on Anglesey gave those present an opportunity to familiarise themselves with the introduced oyster *Ostrea chilensis* Philippi, 1844 (syn. *Tiostrea lutaria* (Hutton, 1873)) and provided many highlights on a very low tide, notably four species of *Ensis* all advertising their presence with their incredible *in situ* squirting prowess and including a significant record of the alien *E. directus* (Conrad, 1843), present in considerable numbers. *Ensis* specialist Paul Dansey continues to monitor the spread of this species up the NW coast, having found a dead shell of spurious provenance on the promenade near Southport Pier.



figure 10: *Saxicavella jeffreysi* shells from offshore grab sample, N. Wales. (photo: Peter Topley)

The Tellinid *Gastrana fragilis* (Linnaeus, 1758) is not often encountered but can be very common at some Welsh coastal sites, or at least articulated dead shell specimens can be, with the occasional live animal found as was the case during the Lleyrn trip. In South Wales, the species was recorded in 2015 near Milford Haven by Paul Evans, who kindly and regularly provides the Society with records from his extensive strandline explorations around various parts of the UK coast. Rather more unusually, two valves of the species were found in SW Scotland, from Loch Ryan, north of Stranraer.

The latter records were made by Simon Taylor and David McKay, who undertook survey work in Galloway in an effort to provide data for a relatively under-recorded part of the coast. Ironically the preparation for the survey included contact with Society member Jim Logan, now resident nearby, who provided extensive lists of records for many of the sites involved. As a result, the area is now quite comprehensively and recently recorded, though no doubt there are always new discoveries to be made, such as the unexpected *Gastrana*. Loch Ryan provided some rich intertidal sites which are likely worthy of further investigation and, interestingly, was completely devoid of

Gibbula umbilicalis (da Costa, 1778), although *Gibbula cineraria* (Linnaeus, 1758) was present and both were common elsewhere on the Galloway shore. Other interesting sites on the southern coast of the area are Mossyard Bay, with huge strandings of shells and impressive reefs of *Sabellaria* worm tubes, and Sandhead Bay, where stranded shells of *Philine quadripartita* Ascanius, 1772 (the species often, but erroneously, referred to as *P. aperta* (Linnaeus, 1767)) and *Scaphander lignarius* (Linnaeus, 1758) were common, with some moribund specimens of the latter.

David's offshore activities continue to produce a huge range of significant and interesting records in areas where little other data exist. The number and range of records is enormous and he continues to experiment with new techniques in an effort to recover more species which may otherwise be missed, alongside his tried and tested methods of attaching small, fine mesh nets alongside conventional fishing gear and dissecting the guts of haddock, as well as examining the main catch for any larger species or material like stones or sponge which may harbour molluscs. Just a few of the highlights of David's 2015 finds include *Colus sabini* (Gray, 1824), *Turrisipho moebii* (Dunker & Metzger, 1874), *Typhlomangelia nivalis* (Lovén, 1846), *Yoldiella propinqua* (Leche, 1878) and several records of *Dacrydium ockelmanni* Mattson & Warén, 1977, all from the northern North Sea. As usual there are some mysteries too, including a number of Eulimids from the Viking area of the North Sea which have caused considerable head-scratching but which I now believe is *Polygireulima monterosatoi* (Monterosato, 1890) (figure 11), and some Turrids from off western Scotland which have been labelled a variety of names, the current favourites being *Philbertia pruinosa* Pallary, 1906 and *Raphitoma villaria* Pusateri & Giannuzzi-Savelli, 2008, although the jury is still very much out on all of them; a happy quandary to be in nonetheless.



figure 11: *Polygireulima monterosatoi*. Viking area of the North Sea.

Two other species David has recorded in 2015 are *Velutina plicatilis* (Müller, 1776) and the chiton *Hanleya nagelfar* (Lovén, 1846). The former was also photographed by the rather prolific diver George Brown, who posted a rather beautiful image he had taken of a living specimen at Lochaline in the Sound of Mull but was struggling to identify, which again drew upon the resources of online social networking to reach a conclusive diagnosis (figure 12). David McKay's discovery of *H. nagelfar* was coincidental with specimens in the collection of the National Museum of Scotland being brought to light by Sankurie Pye, their Curator of Invertebrate Biology, who kindly raised them to my attention. The lot contains two specimens and demonstrates the sort of hidden gems which such collections can hold, as they have very precise provenance, being collected during scientific investigations by the Department of Agriculture and Fisheries for Scotland, at 320 metres, just east of the Faroes, in April 1923.



figure 12: *Velutina plicatilis*, Lochaline, Sound of Mull.
(photo: George Brown)

Some will be aware of Sankurie's involvement in brackish lagoon studies. The lagoon slug, *Tenellia adpersa* (Nordmann, 1845), is a tiny and relatively poorly understood nudibranch species inhabiting, as its common name suggests, brackish conditions. Records are few and, literally, far between, ranging from the Caspian Sea west across the Mediterranean to both sides of the Atlantic and even the northwest Pacific coast (it is thought to be introduced in North America). Presence of the species is determined by growth of its food hydroid species and there is some debate as to the conditions in which those species flourish. I am currently involved in a project following up old records of *T. adpersa* in Essex, to investigate further the population dynamics of the species. It was therefore very interesting to receive a rather unexpected record, via Sankurie, of two preserved specimens from Loch Bi, South Uist in the Outer Hebrides, collected in 2012 and recently verified by Bernard Picton. Again, the habitat was a

brackish lagoon, suggesting that where suitable habitat exists, *T. adpersa* is somewhere to be found.

Encouragingly, 2015 saw the National Trust embark upon a major recording initiative in its coastal bioblitzes, which were held at 25 of its properties on dates between April and October. Several Society members participated and also supplied mollusc records to the Society, with others finding their way into the dataset via iRecord. The events provided an opportunity to meet with specialists in other taxon groups, plus local generalists, the Trust's own staff and an interested public, and to promote the Society and its activities. Reports suggest the bioblitzes were well supported and successful, with considerable effort made by the Trust's employees to draw in as many people as possible. Rumour has it that the exercise may be repeated in 2017 and members are urged to offer their support if possible.

Finally, a few quirkier records from 2015. Michiel Vos posted some fantastic video footage online of swimming *Akera bullata* Müller, 1776, recorded in Mylor marina on the Fal estuary in September (www.facebook.com/mickey.luv.10/videos/10156089979135046/). On the cephalopod front, there were a few records during the year, most notably one which actually made media headlines in December when two lesser or curled octopus *Eledone cirrhosa* (Lamarck, 1798) - which have a single row of suckers on the arms as opposed to the two rows in the 'common octopus' *Octopus vulgaris* Cuvier, 1797 - were found separately at two locations in Norfolk. Any stranded octopus in East Anglia is unusual and noteworthy, although nationally *E. cirrhosa* is far more common than the so-called common octopus. More cephalopod records of any kind would be welcomed. Increasingly frequent are the reports of shell specimens of exotic, often tropical, species found on British or Irish coasts, 2015's highlight being a very large and fine, pearlised specimen of the top shell *Tectus conus* (Gmelin, 1791), found on Bantham Beach in South Devon and reported by Maya Hatton (figure 13). As to how it came to be there, one can only speculate.



figure 13: pearlised *Tectus conus* shell found on Bantham Beach, Devon.
(photo: Maya Hatton)

Baubles and beads: ancient shell jewellery from northern Syria

Janet Ridout-Sharpe

Introduction

Like beads on a giant necklace, ancient settlement mounds or tells are strung along the Euphrates River from the mountains of Anatolia to its confluence with the Tigris in southern Mesopotamia. Many of these mounds have seen the rise and fall of successive city states and empires such as Babylon and Assyria but here and there, especially along the Middle Euphrates in northern Syria, there are some very much older mounds representing the earliest settled communities when people still depended on hunting and gathering and first began to experiment with agriculture. One such mound was Tell Abu Hureyra, excavated by a British team in the 1970s in advance of dam construction on the Euphrates and now beneath the waters of Lake Assad (figure 1).

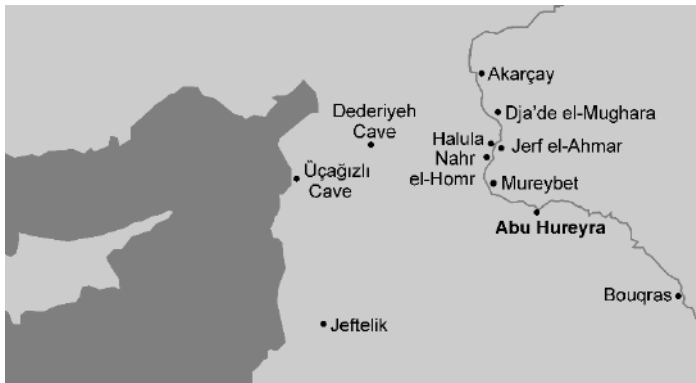


figure 1: The location of Abu Hureyra and some contemporary sites in the northern Levant (from a map by Jay Rosenberg).

Abu Hureyra was built on a low terrace projecting into the river floodplain. It was a vast mound covering 11.5 ha and, although severely eroded, still contained up to 8 m of habitation deposits comprising the remains of generations of mud-brick dwellings (Moore *et al.*, 2000). The site was founded in the Late Epipalaeolithic (Mesolithic) period around 11,000 BC. After some 1000 years of occupation by foragers, the site was abandoned and reoccupied by early Neolithic farmers around 8400 BC and finally abandoned c. 5800 BC. Since one of the main objectives of the excavation was to explore the transition between foraging and farming, great care was taken to retrieve organic remains by sieving and flotation (a water separation technique). In addition to thousands of plant seeds and animal bones, 921 individual marine and freshwater shells were recovered, all of which had been brought to the mound by human agency (Ridout-Sharpe, 2015).

Two-thirds of the molluscan assemblage comprised edible freshwater Unionidae which are not considered here. All 150 marine shells had been modified to form beads or pendants; of these, 99 (66%) were mud snails or nassas (*Nassarius gibbosulus*) and 45 (30%) were cowries. Of 157 freshwater gastropods, 59 (38%) were Neritidae of which 57 (97%) had been turned into beads, and 93 (59%) were Melanopsidae of which just six (6%) had been perforated as beads (most appear to have been accidentally introduced in

the mud used in brick-making). Interestingly, all the nassas were recovered from Late Epipalaeolithic levels and all the cowries from Neolithic levels, whereas the freshwater nerites were found in both camps.

Nassarius gibbosulus

This Mediterranean species has an ancient history of use from the Middle Palaeolithic onwards and 82,500-year-old beads from Taforalt, Morocco, appear to have been made and used in exactly the same way as the beads from Abu Hureyra 70,000 years later (d'Errico *et al.*, 2009). Two-thirds of the Abu Hureyra shells had been burnt to a dark brown-black colour (figure 2) and some of the white ones retained traces of red ochre pigment along their sutures. It is believed that the dark shells were deliberately coloured by controlled heating in a reducing atmosphere and the presence of organic material. White, black and red *Nassarius* beads were used over a wide area of the eastern Mediterranean during the Epipalaeolithic and early Neolithic. Claassen (1998), considering North American material, saw white shells as signifying life and black shells the opposite, and suggested that differently coloured shells may have been used in rituals to effect changes from one state to another; the use of red ochre adds a further dimension.

The shells were perforated in the body whorl and in a few the entire dorsum had been removed to expose the columella. The perforations are irregular in shape and usually located in the anterior part of the dorsum adjacent to the thickened outer lip and immediately behind the siphonal canal. Although some holes may be natural, others have a slightly larger diameter on the exterior suggesting they were pierced by indirect pressure or percussion from the inside. Similar results have been obtained in modern shells using a bone splinter and a pebble hammer (John Llewellyn-Jones, personal communication). Close examination revealed a slight thread wear notch at the anterior margin of some of the perforations, together with a slight widening of the siphonal canal and a blunting of the extreme anterior end of the shell (figure 3). There was no abrasion on the dorsal and ventral surfaces to show adjacent beads had rubbed together when strung, although slight wear facets were sometimes present on the lateral margins. To explain these features, it is proposed that the shells were knotted individually onto a cord that passed through the perforation and along the siphonal canal to be tied at the anterior end of the shell, which then hung spire downwards with (probably) the rounded dorsal face outermost; the lateral wear facets indicate some contact between adjacent shells. Wear shine, particularly on the raised edges of the ventral callus, suggests prolonged contact with the skin or clothing of the wearer. Many of the shells were found in clusters of four or more beads, in various combinations of black and white.



figure 2: A group of *Nassarius gibbosulus* beads, some of which have been coloured by burning (scale in mm).



figure 3: *Nassarius* bead with thread wear notch adjacent to the siphonal canal.

Cowries

Most of the cowries belonged to the genus *Erosaria*. These were found in the earlier Neolithic (Middle Pre-Pottery Neolithic B or MPPNB) levels and had the dorsum removed completely and ground down to leave just the ventral face of the shell (figure 4). All except one of them had subsequently broken at the extremities to form separate lip and columella halves. Cowries with the dorsum removed were common throughout the Levant during the early Neolithic; their uniformity and the fact that beads in the process of

manufacture are rarely found suggest that they were imported as ready-made trade goods. Furthermore, unlike the nassa shells that had travelled a mere 250 km from the Mediterranean, the cowries originated in the Red Sea which is over 600 km from Abu Hureyra as the crow flies. Their state of preservation is generally poor. Most can probably be attributed to *Erosaria turdus* although at least one lip shows the distinctive dentition and markings of *Erosaria nebrites*, also from the Red Sea (figure 5).



figure 4 (left): *Erosaria cf. turdus* bead with the entire dorsum removed and thread wear notches visible at each end of the opening. figure 5 (right): Lip half of a bead made from *Erosaria nebrites* (scale in mm).

In most cases the shells were heavily worn with smooth shiny surfaces on both the dorsal and ventral sides, and the latter frequently showed flat facets and a flattening of the apertural teeth. The complete shell (figure 4) has a thread wear notch at both ends of the opening suggesting that the shells may have been sewn onto some backing material. The discovery of similar notched cowries over the pelvic region of burials at the contemporary upstream site of Tell Halula has led to their interpretation as components of belts or girdles and this may have been the case at Abu Hureyra although it is difficult to account for the extent of wear on both surfaces. Alternatively, the shells may have been strung end-to-end on a twisted cord, similar to those seen in a much later Egyptian example (figure 6).



figure 6: Strung cowry beads from Meidum, Egypt, c. 943–720 BC (from J.W. Jackson (1917), *Shells as evidence of the migrations of early culture*, Manchester University Press).

Three smaller *Monetaria moneta* beads were found in later (Late Pre-Pottery Neolithic B (PPNB)) contexts (figure 7). These had survived intact as less of the dorsum had been removed, possibly due to shell morphology and/or because these beads came from a different source. The dorsal holes were not ground flat and there were no wear facets, suggesting these rare beads were used in a different way, perhaps strung singly as amulets. These shells originated from the southern Red Sea or perhaps even from the east coast of Africa (Mienis, 2015): they may have been made into beads long before they completed their long journey to Abu Hureyra.



figure 7: *Monetaria moneta* bead (scale in mm).

Freshwater nerites

Freshwater nerite beads were the only type of shell jewellery to cross the divide from foraging to farming, probably because they could be collected locally and were not dependent on trade or exchange to reach their destination. Most (88%) were *Neritina cinctella*, represented by pale buff or white shells with a constricted body whorl and a denticulated border to the columella; all had been perforated. This species no longer occurs in the Middle Euphrates. It was the only nerite to be found until the start of the LPPNB when it was joined by a few more brightly-coloured nerites (*Neritina euphraticus* and *Theodoxus syriacus*), not all of which were perforated. An early preference for white or pale-coloured shells suggests their significance extended beyond the merely decorative.

Five of the *Neritina cinctella* shells had been burnt black and two retained traces of red ochre, perhaps in imitation of the *Nassarius* beads. One shell was stained around the edges of the perforation and also around the aperture, suggesting that the string on which it had been threaded was itself stained with ochre. Whereas all the nassas had been perforated by percussion, several different methods had been used to create holes in the nerites. Some had been perforated by percussion from the interior; others had holes ground into them from the outside by abrasion against a rough surface which left a little flat platform around the hole with characteristic striations; some had been gouged or possibly drilled from the outside. Grinding became more popular over time but these different methods suggest that nerite bead manufacture was not limited to specialist craftsmen.

Most of the shells showed traces of wear suggesting they had been strung and worn as beads. Many had a concavity on the outer lip which might imply they had been knotted on a thread like the nassas, although when strung freely the apex of one shell fitted against the concavity in the adjacent shell, and this wear may have been caused by the shells rubbing together. Heavily worn beads took on an ivory sheen (figure 8) and they were sometimes found in association with other beads: someone had dropped three tiny ivory-white shell beads and a red stone disc bead together on a plastered floor.



figure 8: Three *Neritina cinctella* beads found together with a red stone disc bead (scale in mm).

Discussion

The number of shells recovered from seven trenches at Abu Hureyra, despite every effort being made to retrieve them, is very small compared with the lifetime of the site. The Epipalaeolithic settlement yielded 100 marine shells which, distributed over a period of about 1000 years, amounts to only ten shells per century of occupation. The same reasoning applied to the Neolithic settlement results in just two marine shells per century. However, the shells were not distributed evenly over time. Freshwater nerites began to increase at the point when nassas began to decrease before the end of the Epipalaeolithic, and marine shells then disappeared completely until the latter half of the MPPNB, which marked the beginning of an influx of Red Sea cowries. Nerites began to decline with the arrival of the cowries, and the *Erosaria* cowries themselves virtually disappeared at the M/LPPNB transition.

The pattern seen at Abu Hureyra is fairly typical of the Levant as a whole. A restricted range of marine species was used as ornaments in the Late Epipalaeolithic, followed by a less intense use of shells in the Neolithic but with a wider range of species and new techniques for making shell ornaments. This pattern appears to change in step with economic and cultural changes.

Based on the distribution of both Mediterranean and Red Sea shells in the southern Levant, wide-ranging inter-regional exchange networks were in existence from around 16,000 BC. The diminishing number of Red Sea shells from source is typical of a simple down-the-line exchange mechanism. A similar situation operated in the northern Levant with the distribution of Anatolian obsidian southwards. The first settlement at Abu Hureyra may have obtained its Mediterranean seashells via such an exchange network, trading local commodities such as basalt for grinding dishes and bitumen as an all-purpose adhesive in return. The increasing rarity of marine shells at inland sites at the end of the Epipalaeolithic points to an unexplained hiatus in these long-established networks. The next development was the influx of Red Sea cowries at Abu Hureyra which was matched at other early Neolithic sites along the axis of the Levant stretching from the Gulf of Aqaba at least as far as northern Syria. The discovery of a turquoise bead at Abu Hureyra, ultimately from Sinai, shows that the cowries did not travel alone.

Throughout most of the early Neolithic in Syria, numerous hunter-gatherer communities existed side-by-side with relatively few pioneer agricultural settlements such as Abu Hureyra, and it is possible that the foragers used shells to obtain grain from the farmers (Bar-Yosef Mayer, 1997). The establishment of an inland long-distance trade route in the Levant, partially along the Great Rift Valley and perhaps partially fuelled by hunters following migrating gazelles northwards, may explain the presence of Red Sea shells at Abu Hureyra. During this period of cowry influx the early farmers at Abu Hureyra, although cultivating cereals and lentils, were still dependent on wild animals for meat and the exchange of shells may have taken place between hunting parties.

With the introduction of domesticated livestock at Abu Hureyra at the beginning of the LPPNB, the cowry trade came to an end. The human bones demonstrate the arrival of a new group of people at this time, who may have been pastoralists and who may have originated in Africa (Molleson and Rosas, 2012). These people probably introduced the *Monetaria* cowries but with their arrival the fashion for shell jewellery changed. Shell beads were replaced by pendants and inlays of freshwater mother-of-pearl reflecting wider economic and social changes that were taking place at the time.

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Letter to the Editor: *Rangia cuneata* in the UK and British landsnails in Canada

I read with great interest Martin Willing's short paper in the *Journal of Conchology* (2015, **42**(2):189–192) on the occurrence of the Gulf Wedge Clam *Rangia cuneata* in U.K. waters at two sites in Lincolnshire.

After five years, it has answered the question about its chances of appearing in UK waters, posed in my article on *Rangia cuneata* in Belgian waters (*Mollusc World*, July 2010, 23:23), although not where I had predicted! It appears to be in low density at the present especially when it is in totally fresh water. I suspect that once it finds its way into brackish or fully marine environments it will reach high density as in the dock complex of the Scheldt at Antwerp, Belgium, when large shells and juveniles appear by the thousands evidenced by the numbers in recent dumped dredgings. Is it likely to get into very shallow waters and would it or could it become a food source for other animals? Does it have any predators in the USA or does its thick heavy shell preclude this happening?

I also read with interest the paper in the same issue of the *Journal on Cepaea nemoralis* in Burlington, New Jersey, USA (Örstan, A. & Cameron, R.A.D., 2015, **42**(2):193–198). It reminded me of a couple of things that happened in recent years when I asked friends who were visiting Canada (July 2012) and the USA (Aug 2015) to bring me back any land snails that they might find whilst on their geological explorations in both countries (with of course locality details). Well, from Canada I ended up with two *Cepaea nemoralis* from Nanaimo, Vancouver Island and from the USA two *Cornu aspersum* from East of Tacoma, Washington State and two *Cepaea nemoralis* from the same area. Some really different, exotic material!!! That's a lot of mileage to find common UK land snails, what with *Rangia cuneata* now in UK waters and UK land snails across the Atlantic does this make for a fair exchange?

Adrian Brokenshire

To the Editor: some reminiscences of *Emarginula* from Herm Janet Sawyer

I felt that I must write to congratulate you and all the contributors to the latest issue of *Mollusc World* [issue 40]; it really was an enjoyable read. I liked the descriptive background given to the sections on the North Wales field meeting, which reminded me nostalgically of my many holidays in that area in the past. And the poem in memory of Ron Boyce was lovely. However, the article on *Emarginula* slit limpets in the previous issue of *Mollusc World* (Chambers, 2016) caught my particular attention, and prompted me to spend a whole day dabbling happily among the contents of my boxes of ‘finds’ from Herm.

My researches revealed the following:

July 1964: A day visit to Herm during a summer holiday with a friend, half spent on Guernsey and the second week in Dinard, Brittany. On Fisherman’s Beach, Herm, there were three *Emarginula fissura* among many *Diodora graeca*, and I could still point to the exact spot where I found them, beside the rocky terrace leading to the island of Hermetier.

2nd–7th April 1975: This was a Conchological Society field meeting. The weather was stormy, freezing cold with hail and snow showers. We stayed at the White House Hotel out of season and the proprietors were so sorry for us that they provided hot water bottles at night and electric fires by day. On Fisherman’s Beach I seem to have found only one *E. fissura* and one *E. rosea*. There seems to be a quick way of determining these shells visually, as exemplified by the photos in the *Mollusc World* article. It depends on the relationship between the shell apex and its posterior margin. Thus in *E. rosea* the apex almost overlaps the posterior margin; in *E. fissura* there is more space, and *E. sicula* has the longest slope to the back edge of the shell. On the final afternoon of our trip, with snow having fallen and stormy

clouds threatening, I dutifully set out alone to walk to the Shell Beach area. Just as I reached the opposite side of the island from the hotel, a thunderstorm broke and sheet lightning hit the ground all around me. I was obliged to abandon my yellow plastic bucket which had a metal handle, and took refuge face down in a bunker on the island’s golf course! There I stayed until the storm had lessened, when I retrieved my bucket and walked back to the hotel in pouring rain and driving wind. There I found the rest of the group sitting at ease at a coffee table stacked with tea and cakes, with a big log fire crackling away beside them!

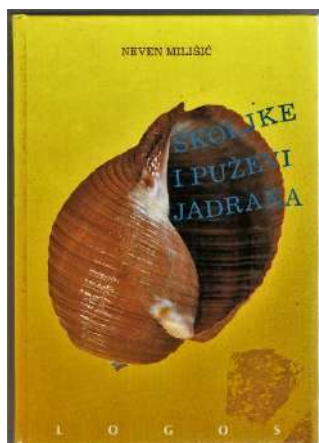
September 1989: I made a solo visit, staying at the same hotel. Three *Emarginula* were found on Fisherman’s Beach, of which two were *E. fissura* and one *E. rosea*. In my box I also noted *Diodora gibberula* (Lamarck, 1822) which Poppe & Goto (1991) state is to be found only from France southwards. Belvoir Bay is a sandy cove to the south of ‘Shell Beach’ and a very prolific shelling location to which I made at least two visits, finding eight *Emarginula*, of which six were *E. fissura* and two *E. rosea*. Masquerading as *Ocenebra erinacea*, I have just noticed a sharp-angled, well sculpted shell with spurs and protrusions, which more closely resembles in Poppe’s book *Hexaplex saharicus* (Locard, 1897) whose nearest location is stated as the Canaries and Northern Morocco, thus illustrating how easily wishful thinking can apply to specimens found on exotic Herm!

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Model Railways and a Croatian mollusc book

David Harfield



Apart from conchology one of my other interests is in model railways. I belong to a local club where I have been given the honorary title of ‘Chief Rummager’, as I am well known for finding outstanding second-hand bargains in model railway shops and at related public shows.

My wife and I were on a cruise around the Aegean Sea in October 2015 as we

wished to visit such places as Dubrovnik. Having visited the old, walled town of Split we were making our way back to the cruise ship when I spotted an open-air market. I was allowed a ‘five minute’ venture into the world of locally grown fruit and vegetables. The rows of stalls were concrete slabs laid across low brick walls. In amongst the carrots and potatoes the ‘Chief Rummager’ spied two stalls that were selling brass items. One of these stalls had four books for sale and one of these was: Milisic, N. (1991) *Skoljke I*

Puzevi Jadrana, Logos, Split. Yes, I had found myself a second-hand book on the local marine mollusca.

Do I speak Croatian? No! And I am well aware that there are excellent books in Italian (a much easier language to translate) that include the Aegean molluscs. I became entranced with the Croatian understanding of their local marine molluscan fauna. The coloured photographs are very good but the shells are not arranged ‘apex up’ as we like in Western Europe. There is even an attempt to include a selection of the micro-molluscs. Even though the photographs are printed about twice the real size, they are of little use in aiding identification.

My particular delight is the section ‘Strani nazivi’ within each species description. A single example must suffice: Kamotocac – *Pholas dactylus* (Linne, 1758.): 1. Engleski: Common piddock. 2. Spanjolski: Almeja brava, Barrena. 3. Frankuski: Pholade commune. 4. Talijanski: Dattolo di mare, Folade. 5. Njemacki: Meer datel. 6. Greki: Dactylo.

Yes, the image of ‘Puz Bacvas’ – *Tonna galea* (Linne, 1758) is reversed on the front cover – that is part of its charm. And what did this priceless 302-page tome cost? All of 5 Euros.

La Caracola

Brian Goodwin

A recent trip to Andalucia in Spain serendipitously resulted in a short stay at a rustic ‘Casa Rural’ or country house called La Caracola (‘conch’ or ‘large shell’ in Spanish). Situated in a rural hunting area near Andujar, I didn’t really expect to find out where the name originated from, but when I arrived there was a large shell forming part of the external decoration (figure 1 shows La Caracola and figure 2 is a detail showing the shell set into the exterior wall). The shell was a large knobbed triton, *Charonia lampas*, a species with a wide distribution including the North Atlantic and the Mediterranean.



figure 1: La Caracola, a country house in Andujar, Andalucia, Spain.



figure 2: Detail of a large *C. lampas* shell set into the wall of the house.

Inside, at the reception desk were three more ‘caracolas’, and we found out that when the house had originally been built in the 1940s it was used as a hunting lodge. The owner had employed dogs to assist in the hunting of deer (red and fallow) and of wild boar, and the three caracolas were used as trumpets or horns to direct the hunting dogs. This explained why all three had had their spires removed (figure 3). Closer examination revealed that they were also *C. lampas*.

Recently, I re-read Peter Dance’s book *Out of my Shell* and was reminded that the use of shells as trumpets or horns, purely for their musical qualities. It’s not a dead art. Stephen Turre, an accomplished American trombonist, is described by Wikipedia (see https://en.wikipedia.org/wiki/Steve_Turre) as ‘a pioneering musical seashell virtuoso’. He leads a band of brass players (who double up on seashells) called ‘Sanctified Shells’ and an eponymous album was released in 1993. It is worth checking out the sound on the YouTube clip at <https://www.youtube.com/watch?v=fkuq6prZHoA> in which a variety of shells are seen, and heard of course, including *Strombus gigas*, *Syrinx aruanus*, *Turbinella pyrum* and *Tutufa bubo*.



figure 3: Left – three shell trumpets used to direct dogs hunting deer; right – an individual *C. lampas* trumpet.

Nurdles* in Paradise

As Iguanas pass, I stoop to find
The keyhole limpets and their kind,
Speckled crab legs; cups of clams
Gathered together on the strand.

A distant turtle struggles back to sea,
Egg-empty and yearning to be free
Of sand and sun and gravity;
A black-beaked Sanderling runs by.

But incongruous beauty-spots,
Like a Regency beau’s bower,
Of turquoise, fuchsia and white
Lie here, fallow for a fight.

Once whaler Thomas Chappel
Set Floriana ablaze;
A prank that cost in species
What plastic now increases.

Peter Topley Galapagos, 2015

*very small pellets used in the manufacture of plastic products, now common in the world’s oceans.

INVASIVE SPECIES: RESPONSE TO CONSULTATION FROM JNCC

Schedule 9 of the Wildlife & Countryside Act (1981) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales.

The Schedule was last reviewed in 2006 (see 'Wildlife – Non-native species' at <http://jncc.defra.gov.uk/page-1377>) and so in March 2015 JNCC announced that it was launching a new non-native species review consultation. To do this, JNCC set up a working group comprising Natural England and Natural Resources Wales together with representatives of the environmental NGOs and of the horticulture and pet trade bodies (the review excluded Scotland).

The Conchological Society was invited to consider potential additions to the schedule; rather surprisingly the only mollusc already present was the slipper limpet *Crepidula fornicata*.

With limited time the Society decided to team up with Buglife to consider possible options and then complete standardised proposal documents. Our initial 'long-list' of non-native species living in England and Wales included, for non-marine, the zebra mussel *Dreissena polymorpha*, the quagga mussel *Dreissena rostriformis bugensis*, the Asiatic clam *Corbicula fluminea* (figure 1), the ghost slug *Selenochlamys ysbryda*, the bladder snail *Physella acuta* and the vulgar or spanish slug *Arion vulgaris*; marine possibilities were the American jack-knife clam *Ensis directus (americanus)*, the Portuguese Oyster *Crassostrea gigas*, the Philippine clam *Ruditapes philippinarum*, the quahog clam *Mercenaria mercenaria* and the American whelk-tingle *Urosalpinx cinerea*. Consultations amongst Society members included in-depth consideration by Ben Rowson, Simon Taylor and Bas Payne.

The long list was rapidly 'whittled down' because, to be successful, proposals needed to demonstrate clear published or other objective evidence that species had caused negative impacts to native species in Britain and/or elsewhere. Several of the long-list species including *P. acuta*, *E. directus*, *M. mercenaria* and *U. cinerea* were quickly rejected as these species are now long established residents in the UK without any clear evidence that they were causing serious problems; the latter two species may even have declined in the UK in the last few decades. *S. ysbryda*, a potential problem to earthworm populations, was dismissed for lack of evidence, whilst both *R. philippinarum* and *C. gigas* are deliberately introduced and controlled commercial species subject to separate legislation. In early August 2015 Buglife, the Conchological Society and the National Museum of Wales (the latter for involvement with *A. vulgaris*) jointly submitted proposals for the remaining four species *C. fluminea*, *A. vulgaris*, *D. polymorpha* and *D. rostriformis bugensis*, all of which appear on DAISIE (Delivering Alien Invasive Species Inventories for Europe), the first three of which are also on their list of the '100 top invasive species' in Europe (see <http://www.europe-aliens.org/speciesTheWorst.do>). The submissions to JNCC for the four invasive candidates can be viewed on the Conchological Society website.

RESPONSES TO NATIONAL BIODIVERSITY NETWORK (NBN)

As members will be aware, the Conchological Society makes its mollusc recording data available to colleagues and the wider public through NBN, and its data Gateway (<https://data.nbn.org.uk/>). NBN has been actively reviewing its strategy under its new CEO, John Sawyer. We have contributed to this by replying to two NBN consultations during the year - the first, in February, about NBN's strategy, and the second, in October, about data access. Bas Payne led on coordinating both of these replies following wide consultation with other Council members. The Society very much supports NBN's policy to encourage recording and open access to data. John Sawyer's unexpected death in November 2015 is a sad loss; we hope that NBN will continue in the same direction.



figure 1: *Corbicula fluminea* from the central New Bedford River (channel of the river Great Ouse), Cambridgeshire.

THE GULF WEDGE CLAM *RANGIA CUNEATA*

The non-native Gulf Wedge Clam *Rangia cuneata* was discovered as a new and possibly unwelcome species to Britain during river surveys in Lincolnshire in August 2015 (figures 2 and 3). A brief summary of the bivalve's then known range, habitat and associated molluscan community was described shortly after in the *Journal of Conchology* (*Journal of Conchology* (2015) 42: 189–192). The initial find left many unanswered questions and concerns that the appearance of this clam could lead to environmental and ecological problems. As a result, the Non Native Species Directorate (NNSD) commissioned a Rapid Risk Assessment, but this raised many questions about the clam's recent arrival. In order to try to discover more, the Environment Agency in Spalding is now working with the Society. Further collaborative work will take place in 2016 to try to learn more about this unusual bivalve including:

- How long has *Rangia* been living in the South Forty Foot Drain (SFFD: the water body where it was first discovered);
- How widespread is it both in the SFFD and elsewhere in the River Witham system;
- Is it living in saline tidal areas near Boston;
- Has it spread into adjoining river systems;
- What can current and historic salinity records tell us about its salinity tolerance;
- How might it have been introduced into the SFFD (study of boat traffic and other activities that have affected the water body over about the last 10 years)?

This work will be undertaken as a Conchological Society partnership with not only the Environment Agency, but also the National Museum of Wales (for assistance with DNA profiling) and Bangor University (help with shell aging by means of sclerochronology, a dating technique broadly similar to ‘tree-ring dating’).



figure 2: *Rangia cuneata*. Collected from South Forty Foot Drain east of Boston, Lincolnshire. Width of specimen 55 mm.



figure 3: South Forty Foot Drain, near Wyburton, east of Boston, Lincolnshire (August 2015).

LAUNCH OF THE ‘RESPONSE FOR NATURE’

I wrote in my last annual report (*Mollusc World* (July 2015) 38: 10–15) about the RSPB led ‘State of Nature’ initiative and associated report which was launched in 2013 and to which the Conchological Society was an active contributory

partner. After that came the ‘Response for Nature’, a follow-up initiative also led by the RSPB, which sought to explore what actions were needed to address some of the issues, problems and challenges highlighted by the State of Nature. The Response for Nature was launched in October 2015 with parallel events taking place in London, Wales, Scotland and Northern Ireland, each releasing a report specifically linked to that country. Peter Topley attended the event in London with Adrian Sumner representing us at that in Scotland. For a more detailed account about the Response for Nature and its launch event in London see *Mollusc World* (March 2016) 40:19.

ADVICE & HELP

Throughout the year a wide range of conservation advice has been provided to individuals, government agencies, NGO organisations, amateur scientists and general enquires from the public. Selected examples of such work:

A. Help with identification:

- Pisidia from a school pond in Bournemouth (were thought to include the rare *P. tenuilineatum*, unfortunately not confirmed);
- A new population of *Vertigo moulinsiana* located by a member of the Sussex Wildlife Trust in the Arun valley;
- A variety of ‘problem helicellids’ from Sites of Nature Conservation Importance (SNCIs) on the South Downs;
- A batch of species collected by the London Natural History Society from Tooting Common;
- Confirmation of a new Roman snail, *Helix pomatia*, site from a country park in south Somerset;
- Clarification of a number of slug records (most with assistance from Ben Rowson) including suspected *Arion lusitanicus* in Devon, *Ambigolimax nyctelius* and *A. valentianus* sent in by a potential junior member living in Surrey, a mystery *Testacella* from Dorset (could have been either *T. scutellum* or *T. sp. ‘tenuipenis’* but lack of dissection prevented resolution).
- *Theba pisana* confirmed as a species that had arrived in a shop on imported dried flowers;
- Clarification of *Helicella itala* specimens causing confusion for recorders from the Outer Hebrides Biological Recording Group;
- Confirmation of identification of samples of *Cochlicella acuta* and *C. barbara* from archaeological and historical samples from a coastal site in Cornwall;
- Damaged swan mussels *Anodonta cygnea* shells found on the banks of a lake near Malvern were identified with the suggestion that they showed characteristics of brown rat, *Rattus norvegicus*, attack. The suggestion was endorsed by David Aldridge who has documented the effects of rat predation on populations of unionid mussels in rivers and drains sites in East Anglia.

B. Multiple issues with *Vertigo moulinsiana*

- Natural England (Worthing) were assisted in interpreting sites at Fishborne Fen (near Chichester) between 1998–2010 on the small and isolated

population of *Vertigo moulinsiana* living there (figure 4). Information was supplied on population numbers, habitat features, extent and the presence of non-native species all required for site assessment.

- Dr Brian Coles was supplied with fresh-dried *Vertigo moulinsiana* needed for an international study investigating genetic variation in the species throughout its range.
- In August 2015 planners working for the Environment Agency were assisted in preparing plans for a flood alleviation scheme near Perranporth in Cornwall. There were concerns that their proposed works might affect a population of *Vertigo moulinsiana* recorded in the area (*J. Conch.* (2003) **38**: 79–86). By good fortune David Holyoak, who knew the precise locations of these *V. moulinsiana*, was present in Cornwall at the time. He generously provided detailed advice on the location of populations of the snail and also commented on the likely value of early surveys. Reassuringly it transpired that the proposed works were for areas unlikely to support this rare snail.



figure 4: Fishbourne Fen on the margins of Chichester Harbour. A site recently opened to try to reduce shading and so increase populations of *Vertigo moulinsiana*.

ASSISTANCE WITH ACADEMIC ACTIVITIES AND RESEARCH

1. A *Myxas glutinosa* mystery!

In March 2015 I was contacted by researchers from Queen Mary University, London who were undertaking biological surveys of rivers, streams and other water courses on West Dartmoor. These studies involved assessing the impact of former mining waste (particularly heavy metals such as tin & lead) on freshwater biota. I was sent a rather shrivelled specimen plus images of both the site and specimen, which was suspected of being a Glutinous Snail, *Myxas glutinosa*. This was clearly exciting news as Natural England consider this species to be extinct (Natural England 2010) and only a single extant population is known in mainland UK in Llyn Tegid in Gwynedd (*Journal of Conchology* (2014) **41**: 673–683). Additional examination of the specimen by Richard Preece further confirmed the *Myxas* possibility, an exciting prospect and one demanding action. As a result, I duly headed for Devon in April 2015 to survey a small stream running off the moor near Mary Tavy (figure 5). The stream certainly seemed a possible *Myxas* location having crystal clear water, good growths of *Ranunculus* sp. and *Calitriche* sp. and clean stones (supporting frequent *Ancylus fluviatilis*). These were free from the algal growth that

might have indicated eutrophication, a decidedly unfavourable condition for *Myxas*. A thorough search of stones and vegetation over about 100m of stream at the site of the initial discovery produced numerous *Radix balthica*, some with depressed spires, but disappointingly no *Myxas*. You don't strike lucky every time!



figure 5: Wortha Mill, River Burn near Mary Tavy, Devon.

2. Badgers and Snails

Help was given to a student undertaking an undergraduate study at Brighton University. This involved the collection of samples of badger faeces from sites in Brighton and then sorting them to assess diet. Amongst a wide variety of other items, the samples produced numerous shell fragments and some complete shells and slug 'plates'. I was contacted to assist. Microscopic examination of the samples (fortunately sterilised prior to delivery!) revealed that at least 12 species were present some undoubtedly deliberately eaten by the badgers with other much smaller species, possibly accidentally ingested accidentally with other food or soil. A more detailed article describing this work will appear in a forthcoming *Mollusc World*.

3. Liver flukes, snails and cattle

From June 2015 I was invited to advise an undergraduate geography student from Edinburgh University working on molluscan-related dissertation research. The work involved studies on the distribution and habitats of lymnaeid species acting as secondary hosts for the liver fluke *Fasciola hepatica*. This was linked to the grazing patterns of longhorn cattle (logged with GPS collars) on the Knepp Castle Estate just south of Horsham in West Sussex (<http://www.knepp.co.uk/>). Snail fluke infection was confirmed by dissection. I was able to assist in a variety of ways; providing literature sources, possible survey and identification techniques as well as suggesting a range of further snail species that might also act as fluke secondary hosts in addition to *Galba truncatula*.

Until recently the Knepp Estate was devoted to traditional arable and dairy farming. It shifted focus in 2001 to start on a series of regeneration and restoration projects mainly focussed on nature conservation and low-intensity meat

production. The ‘re-wilding’ of much of this large estate involved reintroducing a range of traditional breeds of grazing animals including cattle, horses and pigs as well as deer. With so many free-ranging ungulates, issues relating to liver fluke were an obvious concern; the student’s work was part of the estate’s ‘Wildland Project’. In March 2016 the fluke study was nearing completion; the student intends to present a summary of this work in a Conchological Society publication.

WORK WITH GOVERNMENTAL CONSERVATION BODIES AND NGOS

1. An overview of *Vertigo moulinsiana* in the Hampshire/ Dorset/Wiltshire River Avon

The River Avon catchment (lying in Hampshire/Dorset/Wiltshire) is a key area in southern England for the European Union Habitats & Species Directive (EUHSD) Annex IIa species *Vertigo moulinsiana*; the snail is a qualifying feature of the River Avon SAC (Special Area of Conservation). The river and its tributaries have been the subject of numerous *V. moulinsiana* surveys and subsequent monitoring since about 1996. The majority of these were undertaken by Ian Killeen or me with one larger survey undertaken jointly. In early 2015, following discussions with David Heaver, the Natural England’s Senior Invertebrate Officer, I volunteered (on behalf of the Society) to undertake a review of 13 readily available Avon catchment *V. moulinsiana* survey reports covering the period 1997 to 2015. It is not appropriate to cite all of these with this short note, but a more detailed report will be prepared for future release to the Society. Time gaps between surveys and their differing scope made the provision of an accurate contemporary overview challenging. In all cases where a population of the snail has been lost from a site, it has subsequently failed to recolonise. A total of 73 sites in the catchment have supported the snail since about 2000 (47 on the main river plus 26 sites on the tributaries Bourne, Wylye, Nadder and Nine Mile Stream) (figure 6).



figure 6: Riverside fen at Porton Meadows on the River Bourne (a tributary of the River Avon). habitat here supports strong populations of *Vertigo moulinsiana*.

The analysis is worrying and reveals a confirmed loss of the snail at 63% of sites, with a current confirmed presence at only 15%. A further 22% have not been re-surveyed for between 6 and 20 years and it likely that many of these will also have been lost. The snail’s decline seems to be attributable to two main causes; water table fall and low

river flows in the mid-2000s followed, ironically, by prolonged winter flooding in the period 2011 to 2014. This desk study reveals the importance of long term repeat monitoring but also highlights problems arising from time gaps between surveys. Coherent plans for systematic regular site visits for threatened species like *V. moulinsiana* would allow environmental events (like drought and flooding) to be linked more clearly with population changes.

2. PROVISION OF NEGATIVE SURVEY RESULTS

Scottish Natural Heritage (SNH) was supplied with a large body of data relating to sites that had been surveyed for the rare EUHSD Annex II listed species *Vertigo geyeri*, but unusually the locations of sites that had proved *negative* for the snail. Data was supplied from a considerable number of locations extending from Mull of Kintyre northwards to sites in the vicinity of the Applecross Peninsula as well as the Hebridean Islands of Islay, Lismore and Skye. All of the negative sites flushes were not 'second-rate' but specifically sampled as they *appeared* to be ideally suited to *V. geyeri* (in most cases unshaded base-rich flushes). Just why the snail occupies or is absent in any particular flush is unknown; are occupied pockets recent colonisations or remnants of possibly larger populations that have decreased over time? The information provided is being used in relation to the ‘Habitat Map of Scotland’ initiative <http://www.snh.gov.uk/about-scotlands-nature/habitat-map-of-scotland/>. This request also highlights an aspect of recording that is often over-looked; that of the sites that have been surveyed for particular species but have failed to produce them. As well as avoiding survey duplication such information might highlight subtle habitat features required at occupied sites.

ANISUS VORTICULUS AND THE A47 ‘ACLE STRAIGHT’ – AN ONGOING SAGA

Background: The A47 ‘Acle Straight’ trunk road connecting Acle and Great Yarmouth in Norfolk is notoriously dangerous, with long straight lengths and a narrow carriageway; serious accidents are a regular feature. For decades there have been calls for road improvements, mostly to develop a dual carriageway but, to date, no action has been forthcoming. Unfortunately, the road runs through areas of coastal plain grazing marsh including Damgate and Halvergate Marshes (both Sites of Special Scientific Interest (SSSIs) and also in a SAC). These are areas of high conservation value for a very wide range of rare and vulnerable aquatic and wetland plants and animals. Mollusca are well represented and in one very small area (under an acre) of Damgate Marshes close to Acle are a few ditches supporting the little whirlpool ram’s-horn snail *Anisus vorticulus* (figure 7). This is an EUHSD Annex IV ‘European Protected Species’, the only non-marine mollusc in the UK to have such strict protection. The existence of this snail has been known at this site for at least 20 years, the first confirmed find possibly by Duncan Painter in 1995 with the first survey reference appearing in 1998 (Willing & Killeen 1998). Since then the site has been visited many times by Roy Baker and Derek Howlett who have logged their finds in several Ted Ellis Trust and other reports. More recently the Highways Agency commissioned a full survey of all ditches lying adjacent to the road between Great Yarmouth and Acle, a survey that I completed in 2008 (an

unpublished report for Atkins 2008). This work studied 58 ditches, but only found low numbers of *A. vorticulus* in three adjacent ones at the site of the earlier finds.

New proposals: On 21st July 2015 I was very surprised to be contacted by the BBC and asked to express my views on proposals to undertake a translocation of *A. vorticulus* from sites at Acle.

At 6.55am the following morning I spoke on BBC Radio 5 Live for about 4 minutes. Making my Conchological Society credentials clear, I expressed surprise at knowing nothing of the plans. I suggested that if only the A47 second carriageway was built slightly north of its current path at Acle then the few *A. vorticulus* ditches could be avoided. I expressed the view that a translocation option was uncertain, highly speculative and followed on from unsuccessful trials in the Arun Valley. Here RSPB led experiments at Pulborough Brooks and Amberley Wild Brooks over a 5-year period had failed to establish *A. vorticulus* populations by transferring surplus stock from occupied to unoccupied ditches.

My interview corresponded to a flurry of related press articles; the following links being typical of those following the story:

http://www.edp24.co.uk/news/politics/tiny_snails_could_hold_up_dualing_of_a47_acle_straight_1_4158954

<http://www.telegraph.co.uk/news/uknews/road-and-rail-transport/11751038/New-A47-to-be-built-at-a-snails-pace.html>

In early September a meeting was held in Norwich to discuss the translocation proposals and was attended by representatives from Highways England, AECOM, Abrehart Ecology, Buglife, the Ted Ellis Trust, the Conchological Society (represented by Roy Baker and Derek Howlett) and Natural England. At this it was revealed that the AECOM company had produced a feasibility study on *A. vorticulus* translocation on behalf of Highways England based on this document:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/454014/Feasibility_Study_Lesser_Whirlpool_Ramshorn_Snail_DRAFT_Redacted.pdf

The meeting reported that AECOM were planning to start translocation work before the end of 2015 although they still had to apply for a licence from Natural England for this to take place. The Conchological Society together with Buglife will be taking a particular interest in how this arguably controversial initiative develops. Further details will follow.



figure 7: One of the few ditch sites on Damsgate Marshes, near Acle, supporting populations of *Anisus vorticulus*.

BRITISH WILDLIFE

Three molluscan 'wildlife reports' were published during 2015 (*British Wildlife* 26 (2): 134 – 137; 26(4): 288 – 290; 26 (6): 439 - 442). As in previous years these were able to

cover a range of molluscan news, issues and discussions partly drawing upon and discussing the Society's non-marine and marine reports as well as a selection of reports and papers from *Mollusc World* and *The Journal of Conchology*.

RIVERS TRUSTS

In my last two annual reports I described collaborative work with the Arun and Rother Rivers Trust (ARRT) and 2014 saw further 'molluscan inputs'. One initiative is of interest. In March 2015 the ARRT, with guidance from The Wild Trout Trust, set about enhancing a short section of the Burton Mill Stream (a chalk stream tributary of the River Rother located near Petworth, West Sussex) (figure 8). The plan was to add gravel patches to small areas of the stream to enhance its suitability as a spawning area for brown and sea trout. Environmental impact assessment revealed the presence of numerous unionid mussels. As a result, before the gravel was placed it was decided to undertake a systematic sweep of the stream bed upstream and at the location of gravel placement to 'rescue' as many large unionid mussels as possible. This was to prevent them being buried by gravel or crushed by feet moving the gravel-loaded boat downstream from the collection site to point of delivery.

The results are surprising; a total of 169 live mussels were temporarily 'rescued' (167 *Anodonta anatina*, 1 *Anodonta cygnea* and 1 *Unio pictorum*; estimated at mussel density of about 1.7 m⁻²) (figure 9). The mussels were located whilst wading using a 'glass-bottomed bucket' along a stream length X breadth of approximately 20 m X 5 m. As expected, the mussels were not evenly distributed, but occurred in pockets in sandy sediments often wedged between stones. Smaller juvenile mussels, which are much harder to see, were undoubtedly under-recorded so the true mussel population size would have been higher.



figure 8: Burton Mill Stream, near Duncton, West Sussex.

Over the stretch of stream that we undertook the work, large freshwater mussels would appear to be the major component in the stream's total biomass (probably exceeding that for fish!). All mussels were measured before release to the stream, after the work was finished. The results for the *A. anatina* are fascinating. The mean length of the shells was 91.5 mm with 34% exceeding 100 mm (maximum 130 mm). Study of literature sources indicate that this species reaches a typical length of about 75 mm with upper limits between 120 and 130 mm. This suggests that the mussel population

in this stretch of the Burton Mill Stream has been undisturbed for a considerable period of time. This work highlights the importance of undertaking environmental assessments before commencing river 'enhancement' works so that, where possible unioid mussel populations can be captured and returned.



figure 9: The mussels (predominantly Duck mussels, *Anodonta anatina*, rescued and then returned to the Burton Mill Stream after channel management operations.

ASSOCIATIONS WITH OTHER ORGANISATIONS:

The Conchological Society has active associations with many other conservation organisations. Some examples of particular collaborations with our key partners are given below.

A. Buglife

The Conchological Society works closely with Buglife (the Invertebrate Conservation Trust). We undertake joint ventures such as the invasive species submissions described above. We receive advice and news on conservation matters. In 2015 following a Buglife invitation, the Conchological Society sent a list of responses to questions asking how the organisation could assist us. Our suggestions included the possibility of help to re-establish 'steering groups' which used to meet to discuss the conservation of non-marine BAP species between our Society and government conservation agency representatives. These groups were disbanded when national governments (in England, Wales, Scotland and Northern Ireland) established their own priority lists about

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10 years ago. We also suggested a parallel new initiative, the establishment of a marine molluscan steering group for 'species of conservation concern'. We also suggested that help might be given to us to assist in launching some monitoring schemes to involve the public in assessing changes in the fortunes of selected common species (ones where identification is relatively straightforward). Negotiations with Buglife are still on-going and outcomes will be reported in a later report.

On 26th June 2015 Adrian Sumner attended the Buglife meeting in Oban on 'Celebrating Scottish Invertebrates'. He gave a talk on 'Recording Slugs and Snails in Scotland', emphasising the extensive data obtained by and held by the Conchological Society in that country. He also highlighted the difficulties of obtaining good recording coverage in Scotland which has relatively few capable recorders but large sparsely populated areas of remote and often inaccessible countryside and shoreline.

B. Atlas of Living Scotland

Adrian Sumner attended a meeting about the new 'Atlas of Living Scotland'. This project, which is based on the existing "Atlas of Living Australia", aims to be a comprehensive database for all matters to do with Scottish species, including not only species records, but also descriptions and images. The Atlas is still under development, and a beta-version can be visited at www.als.scot. In some ways this initiative is an alternative (some might say replacement) for NBN Gateway in Scotland. The Society clearly needs to follow developments in this initiative.

C. Invertebrate Link (IL)

IL (www.royensoc.co.uk/InvLink/Index.html) meets biannually and gives us links with representatives from NGOs and governmental conservation bodies. It also allows us to advertise our work to these bodies through the distribution of an annual report summarising our recording and conservation activities.

D. Sussex Wildlife Trust's Conservation & Biological Recording Committees

I have been able to represent molluscan interests and contribute an annual records report to *Adastra*, the annual review of wildlife recording in the county (www.sxbrc.org.uk). For 2015 this was able to highlight long-term on-going studies of *Vertigo moulinsiana* and *Anisus vorticulus* taking place in West Sussex and confirmation of the first populations of invasive *Dreissena polymorpha* in East Sussex. The report also drew attention to the possibility of finding long distance non-native 'rafting' molluscs attached to flotsam cast up on the long southerly facing Sussex beaches (allowing references to recent Conchological Society publications: *Mollusc World* 38: 21–23 & *Journal of Conchology* 42: 41–49)

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- Natural England (2010). Lost Life: England's lost and threatened species – NE233. Publications. Natural England.org.uk/32023

In August 2014, I led a weekend course on *Beachcombing and Shells* for the Field Studies Council (FSC) at one of their new centres, the Discovery Centre, Margam Park, Port Talbot, Glamorgan. This incorporated visits to a sandy/muddy beach and a rocky shore and provided opportunity to investigate the neglected beaches of mid-Glamorgan away from the more popular focus of the Gower peninsula near Swansea that has been worked by previous Conchological Society field meetings from the mid-1970s, and the other well-known beaches of Pembrokeshire. Whilst working at the National Museum of Wales in the 1970s, I collated known writings on marine molluscs in Wales (Chatfield 1979) and this did show a more limited fauna upstream in the Bristol Channel, contrasting with a richer fauna from Swansea westwards. However, as the late Mary Gillham explained in her book *Swansea Bay's Green Mantle* (Gillham 1982) an interesting wildlife still exists on this coast in the shadow of heavy industry and she included general accounts of the molluscs. The mid-Glamorgan shore is worth another look and is well visited by local residents. Situated on the north bank near the mouth of the Bristol Channel, Swansea Bay has clearer seawater with less of the suspended particles from the Triassic marls that are so obvious in the sea around Cardiff, but not yet as clear as that off the Pembrokeshire peninsula further west, an area that has been much studied from Orierton and Dale Fort, two other longer-established centres of the FSC. All these shores in the west of Britain have the advantage of the warm Gulf Stream currents from the Caribbean, a feature that has a profound effect on these islands. Without the Gulf Stream our climate would be akin to Newfoundland in Canada.

Previously, I had run two independent courses from Margam Park Discovery Centre in 2012 and 2013 for the British Naturalists' Association (BNA) (Chatfield 2012b) and the South London Botanical Institute and as a result met up with an old friend and colleague from Reading days, Dr Angela Brunt, who has always been keen on marine life and so had retired to live on Gower, returning to the sea and familiar territory from her days as an undergraduate in Swansea in the 1960s. It was Angela who introduced me to Port Talbot Beach as a good place to collect shells and we duly made a visit after the course, while other friends from Cardiff, Carol and Gordon James, introduced me to Rest Bay near Porthcawl, both sites that I had omitted to visit in the 1970s when living in Wales.

Port Talbot Beach or Aberavon Sands

This wide expanse of sandy beach lies to the east of Swansea Bay. It is approached from the harbour of Port Talbot with its hinterland of heavy industry and steelworks developed over a century ago on the extensive sand-dunes that then fringed the mid-Glamorgan shore (figure 1). Industry was facilitated by ready supplies of coal transported from the Welsh coalfield down the Afan Valley. Angela Brunt remembered the sands from the 1960s when they were not the golden colour that they are today but grey, as coal dust was a larger component of the beach material. Looking closely at the strand line will reveal some of this still present, but in far smaller quantity 50 years on. Starting from Port Talbot harbour (accessible at low tide and well worth exploring) the strand line and sands can be followed westwards ignoring the busy top shore promenade and built environment until a thin remnant of sand-dunes tops the

shore, leading to the more extensive sand dunes of Baglan Bay on the Neath estuary. Looking west there is a fine view of the sweep of Swansea Bay and Gower on the horizon and all the industry out-of-sight behind you. Across the Bristol Channel is the Somerset and North Devon coast that was captured in one of the Haiku poems by Angela Brunt in *Tawe Town*, along with the shells of Swansea Bay (Brunt 2013).

It is not difficult, tide permitting, to spend a whole day exploring this beach and it is a good one for beginners as shells are plentiful and varied. Finds are shown in table 1.



figure 1: Looking across the wet sand of Port Talbot harbour with heavy industry beyond and foothills of the Coal Measures in the background. Worm tubes protrude above the surface of the sand.

Port Talbot harbour

Interesting plant life of the coastal habitat grew around the boulders deposited for sea defence with pockets of blown sand at the top of the harbour and in August they were in flower. Between the boulders was rock samphire with its fleshy linear leaves and in the blown sand grew sea rocket, sea holly and sea spurge, while buck's-horn plantain had colonised pavement cracks. Proceeding further into the harbour at low tide, a concentrated zone of upper shore seaweeds was easy to see on the intertidal harbour wall; these provided refuge for a number of marine invertebrates. Lower down, nearer the harbour mouth, the foot of the wall gave anchorage for a dense colony of reef-forming honeycomb tube-worms (*Sabellaria*). The exposed muddy sands of the harbour revealed evidence of a number of different marine polychaete worms below the surface, detected from worm casts and extensions of sand mason tubes visible above the surface of the mud. These clues of worm life below show up well when viewed from a low angle near ground level. Sometimes the worm tubes incorporate small shells. This life below the surface was of interest to wading birds feeding there, but is also a food source for some molluscs. Exposed in the harbour were beached carapaces of common shore crab (*Carcinus maenas*) with pointed carapace teeth and many live juveniles about 1 cm or less across. Crabs start off life as pelagic nauplius larvae in the plankton, enabling them to disperse to new localities. Pelagic larvae feature in the life cycles of many other marine invertebrates like most gastropods, bivalves, barnacles and crabs. They feed on plankton in the sea before settling to a more sedentary life on the shore. The pelagic mollusc larvae are called trochophores and veligers and the latter the subject of a poem by Walter Garstang.

Many dead shells of molluscs were in evidence on the surface and large samples of mud, sand and grit samples were taken back to sort after the course by Adrian Brokenshire, a Conchological Society member who was with us. This produced an impressive list of around 60 species of shells. Many of these were very small and only found after patiently washing, drying, sieving and sorting through the material under a low power microscope, picking up delicate shells on the moistened tip of a fine watercolour paintbrush (Table 1), partly during the course, but mostly at home afterwards.

Aberavon Sands

Leaving the harbour, the group proceeded to explore the strandlines and exposed sands where there were seashells in abundance and good a range of species was easy to find (figures 2 and 3), but it also offered scope for the more experienced conchologists prepared to sort samples of the strand material or exploiting their luck and skills of observation in finding something unusual on the strands through persistent searching. These samples however yielded only around 40 species compared with 60 in the harbour, perhaps reflecting the less sheltered nature of the beach and the currents that deliver and sort the empty shells. Typical of sandy habitats, bivalves exceeded gastropods in numbers. As well as common widely distributed shells, some were of more limited range, especially those indicative of the warmer southwestern shores of England and Wales.



figure 2: Aberavon beach looking towards the harbour and heavy industry of Port Talbot with the hills of Somerset and North Devon on the skyline across the Bristol Channel.



figure 3: Shells and coal fragments on the strand line at Aberavon beach.

Bubble shells

Two notable finds were both opisthobranch molluscs of the seaslug group, but these had shells. It did not take long in searching the strands before we were finding distinctive pink barrel-shaped shells 1–2cm high with white spiral bands that were withstanding the wave action on the beach. They were acteon shells (*Acteon tornatilis*), an opisthobranch with a fairly solid external shell into which the body can retract (figure 4). *Acteon* lives from mid-shore to beyond the low tides on clean sand where it feeds on polychaete worms. Casts and tubes showed that worms were indeed plentiful on this beach. We did not however see any live *Acteon* crawling on this occasion although there were suitable-looking wet sands. I have previously seen the live animals by following trails on the surface of the wet sands on the Dyfed shore further west. *Acteon* is a local shell but regularly occurring alive on a number of beaches in south Wales at Rhossili Bay on Gower and further west at Pendine Sands and Saundersfoot, Dyfed.



figure 4: *A. tornatilis* shell on the sands of Aberavon beach.

The other opisthobranch had a very thin, whitish, almost transparent internal shell consisting mostly of body whorl: this was the bubble shell *Philine aperta*. These shells were found in the harbour. *Philine* lives on the lowest part of the shore and off-shore in sand and muddy sand where it feeds on worms, formaminifera and small infaunal molluscs in the mud. Exceptionally low tides are needed to find it live. Unlike *Acteon*, *Philine* is not restricted to the southwest coast.

Bivalves

Typical of south Wales beaches were two bivalves, the large elongate jack-knife clam (*Pharus legumen*) (figure 5) that looks like a razor shell but the brown ligament holding the valves together is in the centre rather than being at one end as in razors. Many pairs of shells of *P. legumen* were to be found on the strand but they are very brittle so must have a limited life as beach material, but there were plenty of them. Jack-knife clams are western in their distribution concentrated in Wales, northwest England and southwest Scotland.

The bean-like tellin (*Fabulina fabula*), another regular on south-west Wales beaches, is rather smaller at 1 cm in length and pale cream and is somewhat pointed at one end. A distinctive feature is that one valve has a fine cross-hatch sculpture easily seen with a hand lens and figured in *Welsh Seashells* (Chatfield 1977). There could well be living bivalves below the sands on the lower shore and the clue to



figure 5: Jack-knife clam (*Pharus legumen*) and on the strand at Aberavon Beach.

finding these is looking for the siphon marks on the surface of the sand. This is what fishermen do when digging razor shells for fishing bait and some will put salt on the burrow entrance that brings the razors out of the sand in a sudden movement. It is rather spectacular to see. They obviously do not like it! Razors are very common on some west Wales beaches and at Saundersfoot, where tourists may have had cut feet from treading on their brittle shells and needed attention from beach wardens, there used to be a sign in the 1970s: 'Watch your step, razor shells' with a picture of a razor blade and this was illustrated in BNA's *Country-Side* (Chatfield 1992). Does anyone know whether the notice is still there? The large pod razor *Ensis arcuatus* was also found at Abertawe beach.

Rocks at Rest Bay, Porthcawl

The second field day was to a rocky shore at Rest Bay, Porthcawl with a car park above a beach that has long been popular with residents of Glamorgan. The sands on the lower shore here are remarkably devoid of seashells but the interest lies in the Carboniferous limestone rock at the top of the shore. This weathers to a smooth grey surface but it is easily eroded by acids. Where it outcrops on the lower shore, as at Mumbles on Gower at the other end of Swansea Bay, it is the home of several species of rock-boring bivalves including *Hiatella rugosa* (= *arctica*) (figure 6). The Victorian naturalist, Philip Henry Gosse, in his book *Tenby a seaside holiday* called them 'red noses' as at low tide their contracted red siphons showed up on vertical rock surfaces as protruding red jelly-like lumps (Chatfield, 1977 & 1979). Limestone pebbles washed up on Glamorgan shores may show evidence of the burrows. During a visit to Rest Bay in May 2013 large numbers of comb-jellies (*Pleurobrachia pileus*) were found washed up on shore, not to be confused with sea slugs but a separate phylum related to jellyfish (Chatfield 2012a).



figure 6: Rock-boring bivalves in Triassic marl washed up at Rest Bay (does not outcrop at this locality).

At Rest Bay the top-shore rocks (figure 7) are devoid of the typical leathery brown wrack seaweeds but their surface is encrusted with dense populations of barnacles, rendering them cream in colour instead of the blue-grey of the exposed limestone. Barnacles again have pelagic larvae that start their life in the plankton where they feed to a particular stage and when ready to settle as the cypris larvae, they detect and select rocks that already have barnacles on them before cementing themselves in position for life. Here they secrete a series of calcareous outer plates like walls of a castle with the top protected at low tide by inner plates attached to the animal acting like an operculum. Lying on their backs in their castles, at high tide they separate the plates of the operculum and extend long feathery legs that kick and create water currents. From this they strain out small items of food that are caught by the legs and transferred to the mouth. Barnacles are filter feeders but they are also in turn eaten by common dog-whelks *Nucella lapillus*. Different species of barnacles occur on a shore and there is a zonation of species according to tidal zones as in molluscs and seaweeds. Darwin was particularly fascinated by barnacles and devoted 10 years of his life to studying them, the subject of a modern book *Darwin and the Barnacle* (Stott, 2003) as well as his own monograph (Darwin 1851–54).



figure 7: Carboniferous limestone forms the upper shore at Rest Bay, Porthcawl. The rock is smoothed and abraded at the base by wave action carrying sand particles and pebbles. The top rocks are eroded by animal life.

The few seaweeds anchoring at the edges of the rocks are green blanket weed (*Enteromorpha* or *Ulva*) and thin fronds of dulse or laverbread (*Porphyra*). The latter is a local delicacy popular in Swansea and featured in the full Welsh breakfast menu at a cafe by Swansea bus station shown in an earlier *Mollusc World* (Chatfield 2014). It is related to the red seaweeds. The small quantity of weed at Rest Bay offers little shelter for molluscs and flat winkles are conspicuous by their absence.

Getting a foothold on the rocks where they can, are some molluscs and six living species were recorded: common limpets (*Patella vulgata*) common and purple topshells (*Phorcus* [formerly *Osilinus/Monodonta*] *lineatus* & *Gibbula umbilicalis*), rough and edible winkles (*Littorina saxatilis* agg. & *L. littorea*) (figure 8), and common dogwhelk (*N. lapillus*). Winkle trails on the rocks are made visible by the attachment of suspended particles of silt to the sticky mucus (front cover). A few live edible mussels (*Mytilus edulis*) anchor by sticky tough byssus threads in the rock joints at Rest Bay and, like the barnacles, they are filter feeders straining their microscopic food (mostly marine algae in the plankton) from the sea at high tide: the shells are firmly closed at low tide to retain moisture. Again, like the barnacles, unable to crawl around once settled, their larvae develop in the sea as free-floating stages, here called veligers, and this enables the next generation to reach new habitats. It was good to see living common topshells (*P. lineatus*) on the shore in reasonable abundance as the severe winter of 1962–63 killed all of those on the shores of Glamorgan with only a few surviving on beaches in western Pembrokeshire. I did not see them on the Glamorgan shores in the 1970s. The floating larva of *P. lineatus* has only a short length of life in the plankton of a few days so it took about 20 years before this species returned to Gower in the 1980s. Being a mollusc of the upper shore and warmer waters, common topshells are frost sensitive.



figure 8: *L. littorea* (common winkle) showing body with transverse stripes on the tentacles and the operculum attached to the foot.

The most conspicuous gastropod mollusc on the rocks are common limpets and these can move around to rasp fine algae and other nutritious deposits from the surface of the rocks with their strong scratchy tongue or radula (figure 9). When old radula teeth are worn out on the rocks they are detached and a new set moved forward in a never-ending supply, like the continuously growing incisors of rabbits that are also adapted to live on abrasive food. Sometimes on soft

limestone or marls you can find feeding marks on the rock surface around a resting limpet. They are territorial in behaviour and each limpet comes back to its own resting place on the rocks after going off to feed. On a very cold winter's day in the 1970s when I was on the Worm's Head causeway off Rhossili on Gower I saw painted marks on the rocks and numbers on the limpets, presumably some student's homing project on limpets from the previous summer, and most limpets were still in place. In some of the rock-pools of Rest Bay edible and rough winkles are found, but the young can be difficult to identify on the shell: the test here is to get them crawling in a dish of seawater when the edible winkles will have horizontal stripes on the tentacles and the rough and other winkle species have longitudinal stripes. The rough winkles are a species complex (Reid 1996).



figure 9: Common Limpets colonise the rocks between the barnacles and young barnacles have also colonised the limpet shells and bare rock around them. Rest Bay, Porthcawl.

On the lowest of the rocks a few common dogwhelks may be found alive. They go off in search of their food, two anchored animals that cannot escape – edible mussels and barnacles – and they attack the shell with the radula, drilling a hole, through which they suck out the contents. Close scrutiny of the rocks will reveal empty barnacle shells. Common dogwhelks, unlike most marine molluscs, do not have a pelagic larval stage. They lay their eggs in tough leathery capsules attached to crevices in the rock and here they develop to emerge as miniature whelks. This has the disadvantage in making them poor colonisers of new shores, when the use of TBT antifouling paint on recreation boats affected the breeding of dogwhelks, made the males sterile, and populations became unbalanced with few juveniles and low recruitment. They were slow in recovering following the ban on TBT as new recruits could not come from planktonic larvae in this mollusc. A few shells were found in gravel at the bottoms of rockpools as they normally live on mid to low shore zones that are not provided with rocks on many of these beaches. Further empty shells in rock-pools were found by Adrian Brokenshire at Porthcawl main beach, en route to the course (Table 1).



figure 10: The seashore course in 2015 at Port Talbot beach with Swansea Bay and Gower in the distance.



figure 11: Shells depicted and painted by the Margam art course, 2014.

Artistic inspiration from shells

Running parallel with the beachcombing course at Margam Park was David Johnson's art course (figures 11 to 13). Since our courses have run in parallel before at another FSC centre, Nettlecombe Court, we revised a Nettlecombe tradition with each course putting on a display to be viewed after supper on the last evening. Conchologists were around to talk about the shells on display to the artists, while they were around for comment on the art exhibition. As David had asked us to provide some extra shells found on our fieldwork for painting that they could use in the studio on wet days and evenings, their exhibition also included work on shells. This was a nice example of the mixing of arts and sciences and the event was enjoyed by both naturalists and artists.



figure 12: Participants examining a display at Margam Park.



figure 13: Conch. Soc. member Adrian Brokenshire examining the artwork from the Margam Park art course.

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Further information

Tawe Town by Angela M. Brunt. A book of haiku inspired by Swansea. Available from the author at £3.99 plus an A5 SAE at 54 Heatherslade Road, Southgate, Gower, West Glamorgan, SA3 2DD.

Common seashells of Britain and Ireland is a laminated fold-out chart for use in the field produced by the Field Studies Council at £3.00. Available from www.field-studies-council.org/publications/ Visit the Conchological Society's website for the **Encyclopaedia of British Molluscs** that gives illustrations of many species together with distribution maps.

table 1: Seashells at Port Talbot and Porthcawl, 2014.

KEY 1: Aberavon harbour SS74-/88-, 23rd August; 2: Aberavon Beach SS74-/87-, 23rd August; 3: Rest Bay, Porthcawl SS80-/78- and part of SS80-/77-, 24th August; 4: Seafront, Porthcawl SS82-/76-, 22nd August; S: shell record; A: live record.

Scientific name	English name	1	2	3	4
<i>Abra alba</i>	White abra	S	S		
<i>Acanthocardia echinata</i>	Prickly cockle		S		
<i>Acmaea virginea</i>	White tortoiseshell limpet	S			
<i>Acteon tornatilis</i>	Acteon shell	S	S		
<i>Aequipecten opercularis</i>	Queen scallop		S		
<i>Alvania semistriata</i>		S	S		
<i>Angulus tenuis</i>	Thin tellin	S	S		
<i>Anomia ephippium</i>	Common saddle-oyster	S	S	S	
<i>Antalis entalis</i>	Tusk shell	S			
<i>Auriculinea bidentata</i>		S			
<i>Barnea candida</i>	White piddock		S		
<i>Brachystomia eulimoides</i>				S	
<i>Buccinum undatum</i>	Edible whelk	S	S	S	
<i>Calliostoma zizyphinum</i>	Painted top-shell	S	S	S	
<i>Cerastoderma edule</i>	Edible cockle	S	S	S	S
<i>Cerastoderma glaucum</i>	Lagoon cockle	S	S	S	
<i>Cerithiopsis tubercularis</i>		S			
<i>Chamelea gallina (=striatula)</i>	Striped Venus	S	S		
<i>Corbula gibba</i>	Common basket shell	S		S	
<i>Crepidula fornicata</i>	Slipper limpet	S	S	S	S
<i>Diodora graeca</i>	Key-hole limpet	S			
<i>Donax vittatus</i>	Banded wedge shell	S	S	S	
<i>Ensis arcuatus</i>	Curved razor shell		S		
<i>Epitonium clathrus</i>	Wentletrap	S	S		
<i>Euspira catena</i>	Large necklace shell	S	S		
<i>Euspira nitida (=pulchellus)</i>	Small necklace shell	S		S	
<i>Fabulina fabula</i>	Bean-like tellin	S	S		
<i>Gibbula cineraria</i>	Grey top-shell	S	S	S	
<i>Gibbula umbilicalis</i>	Flat top-shell	S		S	S
<i>Hinia incrassata</i>	Thick-lipped dog-whelk	S	S	S	
<i>Hinia reticulata</i>	Netted dog-whelk	S	S	S	S
<i>Hiatella rugosa (=arctica)</i>	Rock borer	S	S	S	
<i>Hydrobia ulvae</i>	Laver spire shell	A	S	S	
<i>Lacuna vincta</i>	Banded chink shell	S			
<i>Lasaea adansoni (=rubra)</i>		S		S	
<i>Littorina littorea</i>	Edible wrinkle	S	S	A	A
<i>Littorina obtusata</i>	Flat wrinkle	S			S
<i>Littorina saxatilis</i>	Rough wrinkle	S	S	A	A
<i>Lutraria lutraria</i>	Otter shell	S	S		
<i>Macoma balthica</i>	Baltic tellin	S	S	S	
<i>Macra stultorum</i>	Rayed trough shell	S	S		
<i>Manzonia crassa</i>		S		S	
<i>Melaraphe neritoides</i>	Dwarf wrinkle	S		S	

Scientific name	English name	1	2	3	4
<i>Mimachlamys varia</i>	Variagated scallop	S		S	
<i>Modiolus barbatus</i>	Bearded mussel		S		
<i>Mytilus edulis</i>	Edible mussel	S	S	S	S
<i>Noemiamea dolioliformis</i>		S			
<i>Nucella lapillus</i>	Common dog-whelk	A		A	S
<i>Nucula nucleus</i>	Nut shell	S	S	S	
<i>Ocenebra erinacea</i>	Sting wrinkle	S	S	S	S
<i>Odostomia plicata</i>		S			
<i>Odostomia unidentata</i>		S		S	
<i>Onoba semicostata</i>		S		S	
<i>Ostrea edulis</i>	Edible/flat oyster	S	S	S	
<i>Parthenina decussata</i>		S			
<i>Parthenina indistincta</i>		S		S	
<i>Parthenina interstincta (=obtusata)</i>				S	
<i>Patella ulyssiponensis</i>	Limpet			S	S
<i>Patella vulgata</i>	Common limpet	S	S	S	S
<i>Pharus legumen</i>	Jack-knife clam	S	S		
<i>Philine aperta</i>	Bubble shell	S			
<i>Phorcus lineatus</i>	Common top shell			A	A
<i>Propebela rufa</i>	Turrid	S		S	
<i>Propebela turricula</i>	Turrid	S			
<i>Retusa obtusa</i>	Opisthobranch	S		S	
<i>Rissoa parva (var. interrupta)</i>		S		S	
<i>Rissoa parva</i>		S		S	
<i>Scrobicularia plana</i>	Peppery furrow shell	S	S		
<i>Sphenia binghami</i>				S	
<i>Spiralinella spiralis</i>		S	S		
<i>Spisula solida</i>	Thick trough shell	S		S	
<i>Spisula subtruncata</i>	Cut trough shell	S	S	S	
<i>Timoclea ovata</i>		S			
<i>Tornus subcarinatus</i>		S		S	
<i>Tricolia pullus</i>	Common pheasant shell	S		S	
<i>Turbonilla lactea</i>		S			
<i>Trivia monacha</i>	Spotted European cowrie		S		
<i>Venerupis corrugata (=senegalensis)</i>	Pullet carpet-shell	S	S	S	

Beachcombing and seashells course

Margam Park Field Studies Council Centre
Friday 19th to Monday 22nd August 2016

Tutor: June Chatfield.

£323, single room, £293, shared room residential,
£228 non-residential.

Details and bookings from FSC Discovery Centre,
Margam Park, Port Talbot SA13 2UA

Tel: 01639 895636

enquiries.mp@field-studies-council.org

or see <http://www.field-studies-council.org/individuals-and-families/courses/2016/ma/beachcombing-and-seashells.aspx>

This year over 110 new vice county records have been added into the recording system. These include many recent additions of *Ambigolimax nyctelius* at various sites in England, Wales and Ireland. This slug was considered to be a greenhouse alien, but these new records suggest that care should be taken with new finds of both the *Ambigolimax* species (the other being *A. valentianus*) so that all new VC records of these two species need to be assessed more critically in future.

Paralaoma servilis at the Doonbeg Golf Resort in Ireland is the first record of this minute snail in Ireland, as is the slug *Deroceras panormitanum* ss, from Avoca Garden Centre, Kilmacanoge. Also in Ireland, the discovery of the Kerry slug *Geomalacus maculatus* in West Galway is noteworthy in lying well north of its main populations in south west Ireland. It is also interesting to note that *Tandonia cf. cristata* has turned up in two more vice counties and so maybe more common than was at first thought.

The recent discovery by Martin Willing of the invasive Gulf wedge clam (or Common / Atlantic Rangia) *Rangia cuneata* at two localities in South Forty Foot Drain near Boston are new records for Britain. Additions to our recording area include eleven new vice-county records for *Limacus maculatus*, seven new VC records of *Balea sarsii* and ten new segregate records of *Arion ater*.

Archaeological Shells

Cochlicella acuta and *Cochlicella barbara* were recorded from excavations at Tregunnel Hill, Newquay, Cornwall (SW 804612), conducted by Cotswold Archaeology in Nov./Dec. 2011. This is a Bronze and Iron Age site, although the *Cochlicella* finds were from overlying blown sand, dating from a much later period (this is concluded as it contained the post-Roman snail introductions to Britain *Ceruella virgata* and *Candidula intersecta*). The occurrence of *C. barbara*, identified by Tom Walker and confirmed by Martin Willing, at this site is remarkable because, if the date is confirmed, then this species appears to have occurred in Britain much earlier than the late 20th century when the species is first thought to have been introduced to the UK. Freshly dead *C. barbara* were also found in a nearby churchyard about 200m north of the archaeological site, suggesting that the snail may have been living there very recently, if not still present.

West Cornwall (VC 1): *Ambigolimax nyctelius*, Alleyway along N. side of houses on Edward St, Tuckingmill (SW65704095) 26.10.2014 John Hutchinson, Heike Reise; *Arion ater* seg., *Limacus maculatus*, Penryn, Falmouth (SW7734) Richard Comont conf. AN.; 31.05.2014; *Monacha cantiana* (SW5131) 03.09.2012 both near Mousehole, Dr Sally Luker, conf. AN.

East Cornwall (VC2): *Arion ater* seg., Kingsand, Plymouth, (SX4350) R. Comont 07.07.2012 conf. AN.

South Somerset (VC5): *Stagnicola palustris*, Burtle (ST3843) 21.09.2006 R. Comont, conf. AN.; *Arion rufus*, *Arion owenii*, North Perrot, Somerset (ST4709) 21.08.2015 both Adrian Sumner; *Balea sarsii*, Pixton Park, (SS9227) 16.09.2014 Keith Alexander

North Somerset (VC6): *Arion owenii*, Long Ashton churchyard (ST5542770086) 11.09.2012 John Hutchinson, dissected H.Reise; *Arion ater* seg., Bath (ST76056334) 10.05.2014 R. Comont conf. AN.

South Wiltshire (VC8): *Balea sarsii*, Collingbourne Kingstons (SU23255724) 17.04.2013 R. Comont conf. AN; *Tandonia cf. cristata*, White Mead Wood, nr Tisbury (ST916296) 23.12.2015 Lloyd Davies det. Ben Rowson.

Dorset (VC 9): *Tandonia cf. cristata*, The Slopes nr Sherborne (ST640158) 20.12.2015 *Ambigolimax nyctelius* Coldharbour, Sherborne (ST642172) 23.12.2015 Both Lloyd Davies and det. Ben Rowson.

Isle of Wight (VC10): *Ambigolimax valentianus*, Castle Street, Carisbrooke (SZ48558814) 06.04.2015 Ian Middlebrook conf. AN.

South Hampshire (VC11): *Arion rufus*, Mountbatten Estate, Romsey (SU3590317617) 01.02.2015 Rachel Margitta Bailey det. Ben Rowson; *Arion distinctus*, Southbourne (SZ137920) 06.01.2015, ULILC, det. Chris du Feu.

North Hampshire (VC12): *Ambigolimax nyctelius*, 7 Bridge Road, New Alresford (SU58023222) 11.09.2015 John Hutchinson, Heike Reise.

East Sussex (VC14): *Ambigolimax nyctelius*, Corner of North St and Little East Street, Lewes (TQ41671031) 05.12.2014 John Hutchinson, Heike Reise.

East Kent (VC15): *Omphiscola glabra*, Longrope Wood, Orlestone, near Ashford, (TQ983355) 10.01.2015 Ron Carr; *Testacella tenuipenis*, *Arion* sp. Davies, Sandling Woods, Maidstone, Kent (TQ761579) 10.2015, *Sphaerium nucleus*, Romney Marsh, The Dowels, (TQ976304) 21.06. 2006 Ron Carr.

Surrey (VC17): *Ambigolimax nyctelius*, Reigate Priory, Reigate, (TQ25344995) 15.09.2015 John Hutchinson, Heike Reise; *Arion distinctus*, Egham (TQ007711) and Englefield Green (SU994711) 06.01.2015, University of London Ladies Luncheon Club (ULILC), det. Chris du Feu.

North Essex (VC19): *Arion ater* seg., Nortons (TL69673766) 27.06.2014 Michael Ashton conf. AN;

Berkshire (VC22): *Arion rufus*, Windsor (SU9577) 01.06.2014 Jane Cockman; *Limacus maculatus*, 08.01.2014 Richard Comont all conf. AN. *Stagnicola fusca*, Cockrow Bottom Warren Farm, (SU361819) 05.01.2015 WWT survey, confirmed Ron Carr.

Oxfordshire (VC23): *Arion ater*, Country Park, Oxford (SP56150614) 09.03.2014; *Arion rufus*, *Arion hortensis*, Oxford (SP52490650) 23.06.2012 Richard Comont; *Physella acuta*, Littlemore, Oxford (SP50150654) 13.07.2013, Richard Comont all conf. AN; *Arion distinctus*, Islip SP524142 ULILC, 06.01.2015 Chris du Feu.

Buckinghamshire (VC24): *Arion flagellus*, *Arion distinctus*, (SP83050524) 03.10.2014 *Balea sarsii*, (SP82950514) 06.02.2015 near Pulpit Hill, Great Kimble Ryan Clark, conf. AN.

Hygromia cinctella, Langley, Slough (TQ011796) 09.2014 Stephen Green det. AN.

East Suffolk (25): *Limacus maculatus*, 21.07.2012, *Arion rufus*, 02.06.2013 Ipswich (TM1743) Gi Grieco conf. AN.

West Suffolk (26): *Arion distinctus*, *Limacus maculatus*, Elvedon Holiday Village (TL808803) 26.11. 2015 Chris du Feu.

West Norfolk (28): *Limacus maculatus*, Great Ellingham (TM017967) 30.03.2015 Chris Knott conf. Terry Crawford; *Ambigolimax valentianus*, *Arion distinctus* Castle Acre (TF813151); *Arion ater* seg., Cockley Cley Heath TF814057 *Arion vulgaris*, Swaffham (TF8208) all 24.11.2015 from Nar Valley Ornithological Society (NARVOS), det. Chris du Feu.

Cambridgeshire (VC29): *Boettgerilla pallens*, Cambourne (TL31835970) 05.06.2014 Martin Fowlie conf. AN.

Bedfordshire (VC30): *Arion distinctus*, Maulden Wood (TL072394) 29.07.2015 Chris du Feu.

East Gloucestershire (VC33): *Arion owenii*, Washwell valley, Painswick (SO85460939) John Fleming 05.06.2015 det. Ben Rowson.

West Gloucestershire(VC34): *Selenochlamys ysbryda*, Westbury-on-Trym (ST57757744) 22.11.2011, Ben Rowson; *Limacus maculatus*, Avon Gorge, Clifton (ST5673) Adrian Sumner 01.05.2015.

Herefordshire (VC36): *Arion ater* seg. Valley Walk, King Arthurs Cave (SO53691556) Jeanette Dunn 31.05.2014 conf. AN; *Balea sarsii*, Swinmore (SO6841) Keith Alexander.

Breconshire (VC42): *Selenochlamys ysbryda*, Churchyard of Brecon Cathedral, Powys (SO04392904) 29.12.2004 John M.C. Hutchinson and re-confirmed at the Priory Mill Farm, Brecon (SO04882953) Ben Rowson 06.09.2015 (see also J. Conch. 2009. 40: 103).

Pembrokeshire (VC45): *Arion rufus*, *A. distinctus*, *A. owenii*, *Balea sarsii*, Orierton Woods (SR957989) 12.08.2015 *Haitia acuta*, Stackpole Warren (SR9794) *Ambigolimax valentianus*, *Hygromia cinctella*, *Testacella maugei*, Stackpole Walled Garden (SR972961) 13.08.2015, *Stagnicola fusca*, Broomhill Burrows (SM9808200120) all Ben Rowson and T. Walker.

Anglesey (VC 52): *Ambigolimax nyctelius*, Menai Bridge (SH55647233) 05.10.2015 Ben Rowson & A. Mackie.

North Lincolnshire (VC54): *Limacus maculatus*, Boston (TF34074312) Carole Johnstone 22.07.2015 conf. AN; *Arion circumscriptus*, Sloothby (TF497708) coll. Lincolnshire Wildlife Trust. 05.03.2015; *Arion hortensis*, Ulceby (TA1115); *Arion rufus*, TA0620; TA0721; Thornton Curtis W1 (Women's Institute) 28.10.2014 all Chris du Feu; *Rangia cuneata*, Hubbert's Bridge, South Forty Foot Drain, River Witham (TF3264942870) Martin Willing 19.08.2015. (see also J. Conch. 2015. 42:189 – 192).

Nottinghamshire (VC56): *Columella aspera*, Dukes Wood NR (SK6860) 15.07.2015; *Zenobiella subrufescens*, Meden Trail, Pleasley Vale (SK5064) 15.07.2015 both Chris du Feu.

Derbyshire (VC57): *Limacus maculatus*, Darley Nutwood LNR (SK3538) NARVOS, 14.11.2015 Chris du Feu.
Durham (VC66): *Boettgerilla pallens*, Castle Eden Dene (NZ4339) 27.05.2015 A.A. Wardhaugh.
South Northumberland (VC67): *Theba pisana*, Cresswell Bay, Druridge Bay, (NZ28939388) Carl & Craig Ruscoe 13.10.2015 conf. AN.
North Northumberland (VC68): *Arion ater* seg. Alnmouth Station (NU230110); *Tandonia sowerbyi*, Alnmouth (NU245104) both 08.09.2015 Adrian Sumner.
Westmorland with North Lancashire (VC69): *Monacha cantiana*, Salthouse Pool (SD22006826) Richard Comish 25.04.2015 conf. AN.
Cumberland (VC70): *Arion circumscriptus*, *A. distinctus*, Armathwaite (NY5046) 21.03.2015 Adrian Sumner.
Isle of Man (VC71): *Arion ater* seg. Fleshwick Bay & Braddon Hill (SC1870) 26.07.2015; *Balea sarsii*, Mallards & Ballachrink Farm (SC3171) 27.07.2015 both Keith Alexander.
Ayrshire (VC75): *Oxychilus navarricus*, Auchenskeith Quarry (NS313466) 17.09.2015 Adrian Sumner. Conf. M.J. Willing)
Renfrewshire (VC76) *Succinella oblonga* Glasgow Museums Resource Centre 01.05.2015 Richard Sutcliffe, Dissected AN.
Selkirkshire (VC79): *Arion circumscriptus*, Selkirk (NT470283); *A. owenii*, *Columella edentula*, *Limacus maculatus*, *Oxychilus navarricus* (conf. MJWilling), *Tandonia budapestensis*, (NT4628) *Euconulus fulvus*, (NT467277) all The Haining, Selkirk 22.07.2015 Adrian Sumner.
Berwickshire (VC81): *Spermodes lamellata*, Harelawside (NT819659) 23.06.2015 Adrian Sumner.
East Lothian (VC82): *Hygromia cinctella*, Lochend Woods, Dunbar (NT678774) 13.04.2015 Adrian Sumner.
Midlothian (VC83): *Arion rufus*, Goldenacre Path (NT250761) 15.09.2015 Adrian Sumner.

Argyll Main (VC98): *Arion ater* seg., Taynuilt (NN011306) 27.06.2015; *Tandonia sowerbyi*, Oban (NM860296) 26.06.2015; both Adrian Sumner.
Dumbartonshire (VC99): *Ambigolimax valentianus*, (NS298826); *Testacella scutulum*, (NS3145381151) both Helensburgh, 05.09.2014. Chris du Feu
Caithness (VC109): *Cepaea nemoralis*, Wick (ND35655125) Richard Comont 23.03.2014 conf. AN.
Orkney Islands (VC101) *Limacus maculatus*, Berstane Woods (HY469100) Lee Johnson 23.04.2015 conf. AN.

Irish Records

Mid Cork (H4): *Hygromia cinctella*, *Ambigolimax nyctelius*, UCC Campus (W6671) 03.2013 all Roy Anderson.
Clare (H9): *Paralaoma servilis*, Doonbeg Golf Resort (Q9928068545) Chris Gleed-Owen 23.03.2015 confirmed by E. Moorkens.
Carlow (H13): *Boettgerilla pallens*, *Balea sarsii*, Oak Park (S7380) 17.04.2014. both R. Anderson
West Galway (H16): *Geomalacus maculosus*, Lettercraffroe (M0637) Jon Kerney 22.07.2010 conf. Roy Anderson.
Dublin (H20): *Deroceceras panormitanum* ss, Avoca Garden Centre, Kilmacanoge (O2415) 11.04.2015, *Arion hortensis*, Kilruddy House (O2716) 12.04.2015 both Roy Anderson.
Westmeath (H23): *Sphaerium nucleus*, Scragh Bog (N4259) 12.05.2015 Roy Anderson.
West Mayo (H27): *Ambigolimax nyctelius*, Westport Demesne (L9884) 17.11.2013 Roy Anderson.
Fermanagh (H33): *Ambigolimax nyctelius*, Colebrook Park (H4044) 25.05.2013; *Semilimax pyrenaicus*, Castle Archdale (H1758) 08.04.2015 both Roy Anderson.

Polygyra plana – more occurrences in Cyprus

Adrian Brokenshire

At the end of February 2016 while on holiday in southeast Cyprus at Protaras, near Paralimni I collected marine and land shells. At two sites, Fig Tree Bay and near Polyxenia Beach (figure 1) I found a substantial number of small discoidal land snails with a toothed lip, unfamiliar to me and which I had not seen in Cyprus on previous visits to the island.

At Fig Tree Bay they were on the cliff top in areas where encroaching scrub was being cleared by gardeners in the grounds of holiday homes close to the coast path. At Polyxenia, they were found on a bank of large boulders, again having vegetation cleared from holiday lets adjacent to the coast path. Both these sites are some considerable distance apart.

I was still stumped to identify these snails even after arriving home and going through my library. Then March's *Mollusc World* arrived and something clicked. Yes! I had seen them before but not in the field, in an article in a previous *Mollusc World*. I checked through my back copies to issue 35 (July 2014) and Janet Ridout Sharpe's article 'An American in Paphos' that referred to her find of the Bahama flatcoil snail, *Polygyra plana* (Dunker, 1843), and the naming problem was solved (figure 2).

As an exotic introduction to Cyprus this small snail seems to be getting around and is becoming much more widespread as Protaras is the other end of the island from Paphos. I'm sure it has been introduced by plants through garden centres but what plants and when I don't know. In looking around the collecting sites there was little that was obvious as a 'carrier', in fact the Fig Tree Bay site appeared to be native cliff top scrub. It was pleasing to find that *Mollusc World* could be used as a source of reference identification, not just as an interesting good read. Perhaps regular small report type articles like this could help in keeping track of other introduced snails!



figure 1: map showing sites at Fig Tree Bay and Polyxenia Beach, Protaras, Cyprus.



figure 2: *Polygyra plana* from Paphos, Cyprus. Scale in mm. (collected May 2014 by Janet Ridout Sharpe). (photo: J. Ridout Sharpe, see also *Mollusc World* 35: 29)

Whenever I travel, I always find myself looking out for ‘man-made molluscs’ – depictions, decorations or any other way in which molluscs touch our world. Often this search becomes a significant focus of the holiday, but on a recent trip to Belgium there were more pressing priorities – notably the WW1 battlefield sites and their ‘shells’ with entirely different connotations. However, I did manage to connect with a surprisingly diverse range of mollusca in downtime from the main activity, including ones of a decorative, musical, artistic and gustatory nature.



figure 1: The Musee des Instruments de Musique (Le MIM), Brussels.

In Brussels, Le Musée des Instruments de Musique (Le MIM - figure 1) is located in a magnificent art nouveau building, ‘Old England’, that previously operated as a department store. A significant feature of the exterior is the decorative frieze of ceramic scallop shells, tantalisingly situated high up, flanking the ‘Old England’ logo. Fortunately, inside Le MIM there is a small architectural display where the *Pecten* pottery panels can be seen, in all their glory, at close quarters (figure 2).



figure 2: A mould of the decorative ceramic *Pecten* shells that grace the exterior of Le MIM.

Le MIM’s main attractions, of course, are the spectacular displays of musical instruments, of all types and from all ages. Among these are a number of ‘shell trumpets’, including one labelled ‘Two Conches’ (figure 3) (probably *Charonia lampas*) that were donated by the eminent Belgian conchologist Philippe Dautzenberg. Incidentally, Dautzenberg was responsible for assembling a large part of the Mollusca collection of the Royal Belgian Institute of Natural Sciences in Brussels, which consists of about 9 million specimens and is one of the three largest shell collections in the world.

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figure 3: Inside Le MIM, among the various European folk instruments, is to be found ‘twee schelphoorns’ (Dutch for ‘two conches’).

Scallops also turned up, in brass, embedded in the pavement, in the medieval city of Bruges (figure 4). As the emblem of St. James, these are presumably markers of a pilgrimage route, connecting to Santiago de Compostela.



figure 4: A brass *Pecten* shell inset into the pavement in the medieval city of Bruges.

Not too many nudes turn up in Mollusc World – unless you count slugs! – so our next encounter is probably ‘a first’! This striking picture is from the Groeninge Museum in Bruges, and it may be that your eye is not immediately drawn to the mollusc. Once spotted, however, the Queen Conch (*Strombus gigas*) is instantly recognisable (figure 5). The painting from 1945 is by Jean Brusselmans (1884–1953). From 1920 he developed a personal style characterized by geometric and stylized compositions and the use of large areas of strong color and constructive brushstrokes.



figure 5: ‘Nude with Conch’ by Jean Brusselmans (1945).

Belgians are avid consumers of ‘shellfish’ and restaurants serving huitres and moules (oysters and mussels) are commonplace. One such bistro in Bruges displayed a



figure 6: A bistro in Bruges displaying a decorative work made from empty oyster shells.

decorative work made from the empty oyster shells (figure 6). We also came across, at the Wednesday market in Bruges Markt, the wonderfully named Wullocks, or common whelks (*Buccinum undatum*) – see figure 7. Reassuringly, these were ‘small and sand-free’!

Belgium is, of course, famous for its chocolates and beer. There was plenty of sea-life shaped chocolate available, and these were both delicious and environmentally sustainable. Despite an assiduous search, I failed to locate any mollusc related beer during the trip. However, a subsequent Internet search revealed Brasserie Caracole, an artisan brewery

located in a small village, Falmignoul in the Province of Namur, Wallonia in southern Belgium. The recurring theme on each label is that of spiral snail shell from which the brewery takes its name. Apparently the snail is the emblem of Namur and the word for a snail in local Namurois dialect is ‘Caracole’. The brewery is the smallest one in Belgium but its produce can be obtained on the Internet (e.g.: <http://wc-3068-on.shopfactory.com/contents/en-us/p306.html>)!



figure 7: From Bruges Market - Wullocks or common whelks (*Buccinum undatum*).

Honorary Treasurer’s Report on the Financial Statements to 31st December 2015

Nick Light

The Conchological Society has ended 2015 in a healthy financial position with total funds of £112,117, an increase of £2298 in the year. The change reflects an excess of income over expenditure of £4272 reduced by a loss on revaluation of investments of £1974.

Income in the year increased by £1303 with increases in subscriptions, investment income, sales and donations. These have been offset by further reductions in publishing costs, down by £3699 when compared with 2014. Council awarded research grants of £2115 in 2015 but these were offset by the cancellation of a £1000 grant, awarded in 2013, as the project has not gone ahead. This all resulted in a surplus of £4272 compared with a loss of £2665 in 2014.

Our investments generated £5011 in 2015 but on revaluation at the year-end we had a loss of £1974 reflecting a loss on bonds, offset by a surplus on shares.

On income we owe particular thanks to CIRCA who manage our subscriptions very effectively, improving our cash flow by encouraging members to pay promptly and maximising our gift aid entitlement and recovery. They recovered £284 of unpaid subscriptions for previous years, with very few amounts still to be recovered. I would like to thank all our members who pay promptly, and those who have made donations to the Society. We also received a most generous bequest of £1000 from the estate of David Lindley, a late member of the Society.

On expenses, further savings arose from printing *Mollusc World*, managed by our editor, Peter Topley. We reprinted the terrestrial snail identification card produced by the

Natural History Museum with funding from us and The Malacological Society of London, and this is still selling well. We continue to discuss ways to distribute the *Journal* in digital form but are not yet sufficiently advanced to forecast the financial implications of such a change. Particular thanks are due to Graham Oliver, editor of the *Journal* who has achieved substantial savings in printing and distribution costs, by his careful management of layout and content.

Research grants were awarded in 2014 to four deserving candidates. Three grants were for £500 and one for £615.

The Society is financially in a strong position where we can continue to meet our charitable objectives, without the need to consider a change in membership subscription rates.



Some attendees at the Conchological Society’s AGM, NHM London, 16th April 2016. (photo: Peter Topley)

At the time of printing, the financial statements to 31st December 2015 are available for viewing online at: <http://www.conchsoc.org/node/6512>

About the Conchological 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 around 300 members and subscribers worldwide. Members receive two publications: Journal of Conchology which specialises in Molluscan Biogeography, Taxonomy and Conservation and this magazine. New members are always welcome to attend field meetings and indoor meetings before joining.

Some key contacts (see web site [<http://www.conchsoc.org/pages/contacts.php>] and 2016 membership list for additional contact details)

HON. PRESIDENT/EDITOR OF MOLLUSC WORLD: Peter Topley
7 Fairfax Close, Clifton, Shefford, Bedfordshire, SG17 5RH
E mails: president@conchsoc.org /magazine@conchsoc.org

HON. GENERAL SECRETARY: Rosemary Hill
447b Wokingham Road, Earley, Reading, RG6 7EL
Email: secretary@conchsoc.org

SUBSCRIPTIONS and MEMBERSHIP

Please send subscriptions or directly related enquiries to
Carolyn Postgate, CIRCA subscriptions, 13-17 Sturton Street,
Cambridge, CB1 2SN
E mail: shellmember@gmail.com

For general membership enquiries please contact:-

HON. MEMBERSHIP LIAISON OFFICER: Briony Eastabrook
Rock cottage, Chapel Street, Stow on the Wold, Glos., GL54 1DA
E mail: membership@conchsoc.org

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
• Family/Joint membership £35 • Under 18 (receiving Mollusc World only) £5 • Student membership £15 • Institutional subscriptions £47

In view of the high cost of overseas postage, members living in Europe will be asked to pay an additional postage charge of £8, and members living in the Rest of the World an additional postage charge of £17. See website for further details.

Payments in sterling only, to Carolyn Postgate, CIRCA Subscriptions, 13-17 Sturton Street, Cambridge, CB1 2SN,

(shellmember@gmail.com). 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. 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/join>. Overseas members may also pay using Western Union, but a named person has to be nominated, so please use the Hon Treasurer's name, Nick Light.

How to submit articles to Mollusc World

Copy (via e mail, typed or handwritten) should be sent to the Hon. Magazine Editor (contact details above). If sending 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. Images and Artwork may be digitised, but we recommend that a digital image size 200Kb- 1.5Mb (JPEG preferred) be sent with your submission. All originals will be treated with care and returned by post if requested. Authors should note that issues of the magazine may be posted retrospectively on the Conchological Society's web site. The general copy deadline for the November 2016 issue is 1st October 2016; inclusion in a particular issue is at the Hon. Editor's discretion and depends upon the space available but contributions are always welcome at any time.

Advertisements in Mollusc World

We are pleased to invite advertisements, provided they are in line with the Conchological Society's charitable objectives and responsibilities. Advertisements of shells for sale from commercial shell dealers will generally not be accepted. Please contact the magazine Editor for further details.

Membership update

The following Conchological Society member has not previously been included in either this column of Mollusc World or in the latest edition of the Members' Guide (2016). Please note that to be included here members must sign a data protection consent form. If you have not been included and now wish to be please contact Carolyn Postgate at CIRCA subscriptions (details above).

(names and details removed)

The codes in italics indicate the member's interests:

B – Conchological books

G – General malacology including genetics/physiology

British Shell Collectors' Club

Saturday 13th August 2016

Chatsworth Shell Fayre

Cavendish Hall, Chatsworth House,
Derbyshire DE45 1PJ.

Open from 9am to 4pm. Admission Free.

Saturday 29th October 2016 Shell Show

Theydon Bois Community Centre,
Coppice Row, Theydon Bois, CM16 7ER.
Open from 9am to 5pm. Admission free.

Please check web site for up to date and further information:

www.britishshellclub.org





Conchological Society of Great Britain and Ireland

Diary of Meetings

Continued from back cover

Saturday 22nd October 2016: INDOOR MEETING: Demonstrations, exhibits, and lecture.

Guest Speaker: Matt Shardlow – ‘Mollusc Conservation Collaboration Experiences and Prospects – The work of Buglife and the Conchological Society’. Matt is CEO of Buglife – The Invertebrate Conservation Trust.

14:00 – 17:00: Angela Marmont Centre, Natural History Museum, London SW7 5BD.

(Council members please note that there will be a Council meeting before this meeting.)

Saturday 19th November 2016: REGIONAL INDOOR MEETING: National Museum Wales, Cardiff.

Organisers: Anna Holmes, Harriet Wood, Jen Gallichan, and Ben Rowson (Anna.Holmes@museumwales.ac.uk).

A day of talks, exhibits, and discussion, including a tour of the mollusc collection.

Full details will be posted on the website.

Saturday 26th November 2016: WORKSHOP MEETING: Woking, Surrey.

10:00 – 17:00: by kind invitation of Judith Nelson at Hilbre House, Pembroke Road, Woking, Surrey GU22 7ED. The annual workshop offers members the opportunity to receive tuition and share problems and experiences. Those who wish to come should ring Judith (01483 761210) in advance for more details and to reserve a place. A fee of £5 will be charged to cover expenses.

Please note that Hilbre House is a non-smoking property.

Saturday 10th December 2016: INDOOR MEETING: A Christmas miscellany

14:00 – 17:30: Angela Marmont Centre, Natural History Museum.

As usual, a meeting made up of a series of short presentations (5-20 minutes) by members: these can be anything mollusc-related, with or without exhibits. This will be followed by a glass of Christmas wine (free!); and then by supper at a nearby restaurant (pay your share ...). If you would like to make a presentation, or want a place at the restaurant, please get in touch with Bas.

(Council members please note that there will be a Council meeting before this meeting.)

Please note the following dates in 2017 for your diary:

Saturday 21st January 2017: INDOOR MEETING 14:00 (preceded by Council meeting).

Saturday 25th February 2017: INDOOR MEETING 11:00; talk at 14:00

Saturday 8th April 2017: ANNUAL GENERAL MEETING (preceded by Council meeting)

Speaker: Dr Helen Scales (subject of talk tbc) 14:00: Natural History Museum, Cromwell Rd., London SW7 5BD

Helen is a well-known marine biologist, broadcaster and author of books including *Spirals in Time, the secret life and curious afterlife of seashells* (Bloomsbury, 2015).

probably Saturday 20 May – Wednesday 31st May 2017: MARINE FIELD MEETING, Orkney.

Saturday 21st October 2017: INDOOR MEETING 14:00 (preceded by Council meeting)

Saturday 18th November 2017: REGIONAL MEETING (venue probably Cambridge)

Saturday 9th December 2017: INDOOR MEETING 14:00 (preceded by Council meeting)

Indoor meetings at the Natural History Museum take place in the Angela Marmont Centre for UK Biodiversity, Darwin Building. From the main entrance hall, turn left at the tail of the *Diplodocus*, go past the dinosaur exhibition, then down the stairs, and then turn left. The door of the Centre will be locked; please ring the bell and someone will come to open it. **Please bring plenty of exhibits and demonstration material.** A group of us usually go out for a drink and a meal at a local restaurant after indoor meetings, with the speaker if his or her travel arrangements permit; please let Bas (contact details below) know if you would like to join us, if possible by the preceding Wednesday so that a large enough table can be booked.

If you intend to attend a **field meeting**, please remember to inform the leader beforehand, and if, on the day, you are held up in traffic or your public transport is delayed, please try to contact the meeting leader if possible.

We are always happy to receive any suggestions for speakers for indoor meetings, or offers to lead field meetings, and also any suggestions about Society participation in the meetings of local and other societies.

Contact the Programme Secretary:

Bas Payne

The Mill House, Clifford Bridge, Drewsteignton, Exeter, EX6 6QE



Conchological Society of Great Britain and Ireland

Diary of Meetings

Please check the website (www.conchsoc.org) for further details and any updates, including other meetings arranged at shorter notice.

Sunday 24th July 2016: YNU FIELD MEETING (marine): “Capturing our Coast” Bioblitz, Filey, Yorks.
Meet at 12:30 at car park at TA 120/814. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Sunday 7th August 2016: FIELD MEETING (non-marine): Lower Winskill Farm, Settle, North Yorkshire.
Organiser: Terry O'Connor (0779 4040684, osteconnor@gmail.com).
Working upland farm with diverse grassland habitats, dry stone walls, wooded limestone pavement and small limestone scars.
Meet at 10:30 at Lower Winskill Farm, NGR SD 8267/6648; see website for road directions.

Monday 8th August 2016: WORKSHOP MEETING: Leeds Museum Discovery Centre.
Organiser: Terry O'Connor (0779 4040684, osteconnor@gmail.com).
Details tba (see website): an opportunity to sort through and review Sunday's finds, and visit the mollusc collection.

Wednesday 10th August 2016: FIELD MEETING (non-marine): Thatcham, Berkshire RG19 3FU.
Organiser: Tom Walker (0118 987 4294; tom@tmwalker.co.uk)
Vertigo moulinsiana was found last year (see Mollusc World 39) together with a good range of other species; we will survey areas which we did not explore last year.
Meet at 10.30 at Thatcham Discovery Centre (SU 506/671); ample parking and on-site cafeteria available.

Sunday 21st August 2016: YNU FIELD MEETING (marine): “Capturing our Coast” Bioblitz, Sandsend, Yorks.
Meet at 11:00 at car park at NZ 860/129. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Saturday 10th September 2016: FIELD MEETING (non-marine): Aqualate Mere National Nature Reserve, Shropshire.
Organiser Mags Cousins (mags.cousins@naturalengland.org.uk, 02080261249). Joint meeting with Staffordshire and Shropshire Invertebrate Groups.
Ramsar site with reedbed, swamp, alder carr, fen and rush pasture; molluscs include four species of *Vertigo*.
Meet at 10.30am in car park outside the office, at SJ 777/198 (postcode TF10 9DB). As this is a private property, please contact Mags if you are intending to come.

Saturday 17th September – Saturday 24th September, 2016: FIELD MEETING (marine): Plymouth area, Devon.
Organiser: Bas Payne (01647 24515, bas.payne@gmail.com).
Rocky coast with high diversity: good rock pools etc., sandy bays. Low spring tides (+0.1m) early afternoon 18-19th September. We plan to visit sites in the Salcombe/Kingsbridge Estuary, the Avon and Erme estuaries, Wembury Bay and Jennycliff Bay (Plymouth Sound). It is hoped that we can also organise some off-shore grab sampling. For further details, see website; please contact Bas if you are interested in coming.

Sunday 18th September 2016: YNU FIELD MEETING (marine): “Capturing our Coast” Bioblitz' South Bay, Scarborough, Yorks.
Meet at 10:00 at car park at TA 049/868. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Saturday 24 September 2016: SLUG IDENTIFICATION WORKSHOP: Elsecar Heritage Centre, Barnsley South Yorkshire.
Leader: Robert Cameron. Sorby Invertebrate Group / Dearne Valley Landscape Project event. Free to CS members; advance booking essential. 10:30 – 16:00. Contact Derek Whiteley (invertebrates@sorby.org.uk).

Sunday 16th October – Thursday 20th October, 2016: FIELD MEETING (marine): St. VAAST area, Normandy.
Organiser: Jan Light (janthinalight@gmail.com, 07973 322681).
Good mixed coast with high diversity and large tidal range; low spring tides (+0.4m) late afternoon 17–18th October.
Further details t.b.a.; please contact Jan if you are interested in coming.

Sunday 16th October 2016: YNU and YWT FIELD MEETING (marine): “Capturing our Coast” Bioblitz, South Landing, Yorks.
Meet at 10:00 at car park at NZ 809/160. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).