

# Mollusc World

July 2019 • Issue 50



The  
Conchological  
Society  
of Great Britain & Ireland

## Badgers as molluscan predators

Recording and conservation news

A Sir Maurice Yonge letter

*Helping to understand, identify, record and conserve molluscs*

## From the Hon. Editor



Reaching issue 50 of our magazine is somewhat of a milestone, so many thanks to all those who have sent in articles for this 'bumper' issue. There is a big variety, from the very interesting reports on recording and conservation in 2018 (including the continued importance of digitising the thousands of older paper records that the

Conchological Society holds) to molluscs in the diet of badgers, field meeting reports and an interesting 'biographical' letter from the late Sir Maurice Yonge. In addition, the opening of a new building named after one of our past Hon. Presidents is something surely to be celebrated. Keep up the good work for the next issue!

*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. Mollusc World will also be of interest to all those enquiring about this subject or the work of the Society. We welcome all contributions in whatever form they arrive (see page 35 for further details).

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ISSN 1740-1070

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**Front Cover:** A badger in East Kent with possible thoughts about eating snails! (see page 9) (main photo: Laurie Jackson; *Cornu aspersum* photo: Martin Willing).

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Although not to the degree recorded earlier in the decade, 2018 saw further examples of transatlantic rafting after a blank the previous year. Perhaps most notable was early in the year when a length of black rope washed up in Windwick Bay, South Ronaldsay, Orkney was found by Yvonne Simpson and Lee Johnson to have numerous West Atlantic bivalves attached with multiple specimens of *Chama macerophylla* Gmelin 1791, *Dendostrea frons* (L., 1758) and *Isognomon bicolor* (Adams, 1845) (figure 1). At the opposite end of the country, Steve Trehwella found further *Stramonita haemastoma* (L., 1767) on a shoe washed up on Chesil Beach in December. The Orkney find increases the geographical range over which these transatlantic rafted molluscs have stranded, extending anticlockwise from there all around the Atlantic-facing coasts and up the Channel as far as Dungeness.



figure 1: Transatlantic *Isognomon bicolor* washed up in Orkney.  
(photos: Yvonne Simpson)

With numerous other recording schemes in operation, cephalopod records can be thin on the ground but the Society received a number of records of the commercial pelagic squid species via the fishing industry. There were some inshore reports too, including a large (85cm) and unusual-looking squid seen at Alnmouth, Northumberland in May. Sadly the images were insufficient to permit determination to species but it was clearly an oegopsid, either *Todarodes sagittatus* (Lamarck, 1798) or *Ommastrephes bartramii* (Lesueur, 1821); either would have been a rare record, demonstrating just what can be found even on the shore if one is in the right place at the right time. Divers are a great source of cephalopod records and Seasearch stalwart and Conchological Society collaborator Dawn Watson reported a sighting of the rarely recorded bobtail squid species *Sepietta oweniana* (d'Orbigny, 1839-1841) from Kerrera Sound.

Records of pteropods are generally made from the discovery of their small, unusual shells in benthic grits but occasionally live observations are made and Kirsty Andrews submitted some beautiful images of swimming *Limacina retroversa* (Fleming, 1823) (figure 2), taken at 5 metres depth off the north coast of Scotland in July.



figure 2: The pteropod *Limacina retroversa* off north Scotland.  
(photos: Kirsty Andrews)

At the other end of the country, off the south coast, there is further evidence of the distributions of several sublittoral species creeping northwards. In March a beam trawl in the Channel brought up a very interesting find for researchers Hayden Close and Ross Bullimore: a specimen of the notaspidean opisthobranch *Pleurobranchaea meckeli* (Blainville, 1825), generally considered a Mediterranean and Portuguese species. There have also been further records of the colourful chromodorid *Felimida krohni* (Vérany, 1846) which appears established at Eddystone now (Jan Davies) and was also recorded off Hilsea Point east of Plymouth by Bee Nuttall. Jan had something of a bumper year for nudibranchs in the south, also recording *Facelina annulicornis* (Chamisso & Eysenhardt, 1821), *Pruvotfolia pselliotes* (Labbé, 1923), *Cumanotus beaumonti* (Eliot, 1906) (figure 3) and *Doris ocelligera* (Bergh, 1881). Another Jan (Whittington) found a specimen of the rarely seen *Tritonia manicata* Deshayes, 1853 (figure 4) near Ilfracombe in north Devon.

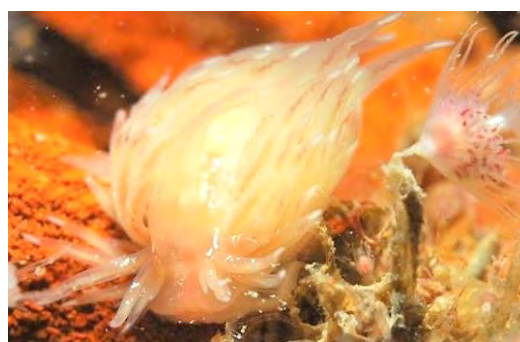


figure 3:  
*Cumanotus beaumonti*  
off Plymouth.

(photo:  
Jan Davies)



figure 4:  
*Tritonia manicata* off  
Ilfracombe.

(photo: David  
Fenwick)

Other notable nudibranch records were *Janolus hyalinus* (Alder & Hancock, 1854) found by Tom Hughes in Menai Strait and *Geitodoris planata* (Alder & Hancock, 1846) photographed by Paula Lightfoot at both Saltwick and Cresswell in the North Sea, while at the end of the year Charlotte Bolton reported a lovely specimen of the very rare (in Britain at least) saccoglossan *Hermaea variopicta* (A. Costa, 1869) in Portland Harbour.

In Cornwall, David Fenwick was again busy and compiled a considerable body of records, particularly opisthobranchs. One species to receive plenty of attention recently has been *Runcina ferruginea* Kress, 1977 and David's 2018 observations suggest it was either a good year for the species or it is widening its distribution as he found it several times including at his regular sampling site at Newlyn, where it is almost certain he would have seen it previously had it been present. It may be remembered that in 2017 David's excellent images and website enabled overseas expert Dr. Manuel Caballer Gutierrez to determine that some photographs thought to be of the sacoglossan *Hermaea bifida* (Montagu, 1816) were actually his recently described species *Hermaea cantabra* Caballer & Ortea, 2015. The plot thickened further in 2018 when David referred further images, similar to but different from *H. cantabra*, to the same expert who duly confirmed them as yet another species, *Hermaea paucicirra* Pruvot-Fol, 1953 (figure 5). These records, again from Newlyn, are thought to be the first in the UK for this species, evidently often found alongside *H. cantabra*. David's other recent find, widely accepted as a new species within the recently described nudibranch genus *Rubramoena*, is yet to be scientifically described but he continues to provide distribution records for it.



figure 5 : *Hermaea paucicirra*. (Photo: David Fenwick)

Another prolific recorder, David McKay, again had a productive year. Perhaps his most perplexing find was specimens of what appeared at first glance to be *Nucula nitidosa* Winckworth, 1930 but which had a smooth shell margin. Upon investigation these are thought to be *Ennucula decipiens* (Philippi, 1844) which would be another first record for British and Irish waters for a species thought to have a more southern distribution. David's exploits on various fishing vessels produced other intriguing finds such as some deepwater *Calliotropis*, possibly including *Calliotropis mogadorensis* (Locard, 1898), the boreal whelk *Buccinum kjennerudae* Bouchet & Warén, 1985 (figure 6) from the Wyville Thomson Ridge and a specimen of *Acanthocardia* from Rockall, thought on close inspection to

be *A. echinata* (L., 1758) but from an unexpected location and with very curved spines (figure 7). He also found further records of the rare buccinids *Turrisipho fenestratus* (Turton, 1834) and *Turrisipho lachesis* (Mörch, 1869). Back on the bivalve front, David made additional finds of the deepwater species *Halicardia flexuosa* (Verrill & Smith, 1881) which he first found in 2017 and, off Shetland, collected some specimens of a tiny white bivalve he did not initially recognise but which were confirmed by Graham Oliver as the galeommatoidean *Arculus sykesii* (Chaster, 1895) which lives in association with crustaceans of the genus *Apseudes*. Coincidentally, earlier in the year a further record for *A. sykesii* was received, made by Adrian Rundle from shell grit in Benbecula; this represented a range extension to the north in itself but David's record extended that considerably further north and east.



figure 6: *Buccinum kjennerudae* from the Wyville Thomson Ridge.



figure 7: *Acanthocardia echinata* var. , Rockall Bank, 190 m. (photo: National Museum of Wales, Cardiff.)

Your author was fortunate to spend some time surveying with David on Lewis in the Outer Hebrides in May 2018, during which we compiled a large number of records for various sites around the island, notably live *Turbonilla jeffreysii* (Jeffreys, 1848) (figure 8), some spectacular specimens of the chiton *Tonicella marmorea* (Fabricius, 1780) (figure 9) and 17 species of sea slug, including many *Adalaria proxima* (Alder & Hancock, 1854), demonstrating what the determined shore worker may achieve in a field often considered the preserve of divers. Some very limited offshore sampling was undertaken, yielding 32 taxa including *Tragula fenestrata* (Jeffreys, 1848) and *Myrtea spinifera* (Montagu, 1803).



figure 8 : *Turbonilla jeffreysii*. Balallan, Lewis. (photo: Ian F. Smith)



figure 9: *Tonicella marmorea*, Lewis, Outer Hebrides. (L. = c.47mm)

*Atrina fragilis* (Pennant, 1777), the fan mussel or pen shell, was much in the news during the year, including an article in the Society's own publication (Baldock et al., 2018) which updated the long if sporadic record history of the species in the area. Elsewhere, Natural Resources Wales (2018) were pleased to announce the discovery of a live specimen in Milford Haven estuary, citing the locality's position within the Pembrokeshire Marine Special Area of Conservation as relevant to the potential survival and possible spread of the species there.

During the year further records and information emerged regarding the alien or non-indigenous species *Arcuatula senhousia* (Benson, 1842), discovered living in the Solent in 2017 (Barfield et al., 2018). There is news of records having been made some years earlier in the same area, perhaps suggesting the species may not spread as rapidly as feared, although less encouragingly there were also new records from the Isle of Wight. Further presence in the Solent was detected as part of an environmental DNA project (Holman et al., 2018) primarily intended to monitor the efficacy of this new technique by utilising it to detect known non-indigenous species but actually going on to detect three others not, at the time, known to the authors to be present in British waters. Further work is planned with the intention at least in part of determining the vector by which the species has evidently become established. During 2018 it was also first recorded in West Africa in the Bijagós archipelago of Guinea-Bissau, one of the largest intertidal wetlands in that region (Lourenço et al., 2018), further extending this species' increasingly global distribution and where its presence could have an impact on the significant value of the area for wintering birds.

Parts of the south coast have surprisingly few records in the Society's digitised dataset and while this may reflect the outstanding need to digitise old paper-based records it nevertheless highlights a lack of contemporary surveying and recording. Recent efforts by enthusiastic beginner (I am sure he will not mind being referred to thus) Stephen Green have demonstrated what can be achieved with a little tenacity and industry and have generated a significant number of records of common and less common species including *Pandora inaequalis* (L., 1758), *Petricolaria pholadiformis* (Lamarck, 1818) and *Sepia orbignyana* Férussac [in d'Orbigny], 1826.

As always, there have been interesting reports of vagrant shells of tropical species but the most intriguing emerged at the very end of the year when Steve Trehwella reported a large bivalve seen while diving under Swanage Pier. Photographs showed it to be a fine specimen of *Antigona magnifica* (Hanley, 1845), primarily a Philippine species but, amazingly, Steve said he had held it and it appeared alive. This created something of a stir and fortunately Steve was able to return to the site and relocate the specimen which turned out to have been dead all along (the solid shells are deceptively heavy) and on close examination even appeared to have the sticky mark left by a shop price label. How these things come to end up on shores can only be speculated.

In closing I would like to thank all those who have contributed data or who have assisted in compiling it, and to encourage all Society members to conduct some marine surveying and submit the results. My gratitude is also extended to Ian Smith who has assisted in many ways, particularly in facilitating the British Marine Mollusca Facebook group and contributing regularly to it, and in helping with the 'data purification' project aimed at correcting any errors in the existing data. I would also like to thank Brian Goodwin with whom I have been collaborating to explore methods by which the Society's extensive paper-based records may be digitised and added to the Recorder 6 dataset and thence shared via the National Biodiversity Network Atlas. Hopefully next year it will be possible to report considerable progress in this project.

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One of the most important marine biologists of the twentieth century was Sir Charles Maurice Yonge (1899-1986). In 1928, when still in his twenties, he was chosen to lead an expedition to the Great Barrier Reef where he studied the coral system and its infauna (figures 1 and 2). Later he devoted much of his research to molluscs and particularly to the study of form and function in the Bivalvia, becoming a leading authority on this subject. In 1932 he was appointed first Professor of Zoology at the University of Bristol and, in 1944, he became Regius Professor of Zoology at the University of Glasgow. In 1946 he was elected a Fellow of the Royal Society and, in 1967, he was knighted. A highly respected elder statesman of the natural sciences, he was also eminently approachable and kindly.



figure 1: Maurice Yonge and his first wife Mattie in Australia for the Great Barrier Reef Expedition, 1928. (photo: Courtesy National Library of Australia).

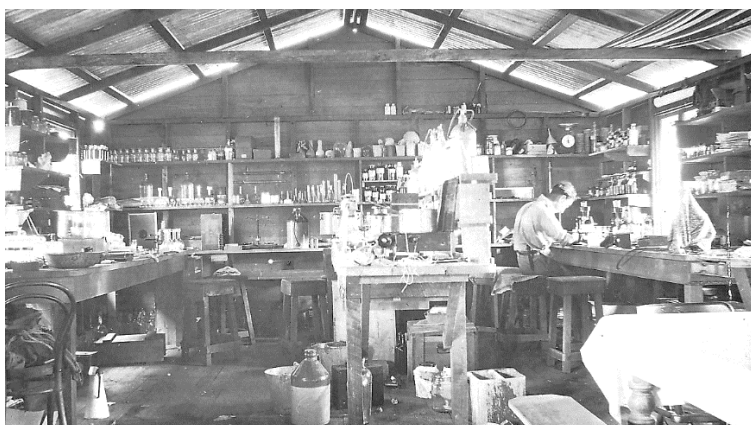


figure 2: Dr Maurice Yonge seated at a bench inside the Low Isles laboratory, 1928. (Photo: Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. \*)

In addition to writing many articles on the Great Barrier Reef he was the author of *A Year on the Great Barrier Reef* (publ. Putnam, 1930). In 1981, I wrote to him saying I had been unsuccessful in my search for a copy of that book and would like to know more about it. On 19<sup>th</sup> May 1981 he sent

a lengthy reply in which he not only dealt with my enquiry, but gave interesting details about some of his other publications and how their sales had helped boost his income, interspersed with comments on the researches of himself and some of his fellow workers. In my opinion this letter is interesting enough to be worth sharing with a wider audience.

I was privileged to meet this remarkable man one day, at 13 Cumin Place, his retirement home in Edinburgh, when he was 82. He had invited me to his home because we had a mutual interest in the history of the natural sciences and particularly the publications of men and women who had played a part in that history. With obvious delight he showed me some of his treasures, many of them small and obscure, some of them very rare, most of them purchased very cheaply. On June 1<sup>st</sup> 1989 some of what were called his 'nautical treasures' were auctioned by Phillips in Glasgow. His books were not included in that sale, but the cover of the sale catalogue shows some of them neatly arranged on small, antique bookshelves in his Edinburgh residence (figure 3). The books were actually acquired by R. F. G. Hollett & Son, booksellers of Sedburgh, Cumbria, who issued a catalogue, listing 594 items, in 2001, for which I provided a Foreword (figure 4). How I wish I could have afforded to purchase some of the books included in it! At the Phillips sale, however, I did manage to purchase a few items, including Lot 16, 'A VICTORIAN TILE with shipping scene, naturalistic border (framed)' (figure 5). That very tile had sat on Sir Maurice's desk in Edinburgh, where it had served as a stand for his teapot, from which he had poured out for me one or two cups of tea! Of such things precious memories are made. His letter to me is precious, too, but, although personal, I suspect he would be secretly pleased that I have decided to share it with others!



figure 3: Cover illustration from a Phillips Auction Sale Catalogue of Nautical and Marine Antiques, Thursday 1<sup>st</sup> June 1989. It shows books and nautical memorabilia as displayed in the lounge of Sir Maurice Yonge's residence in Edinburgh.

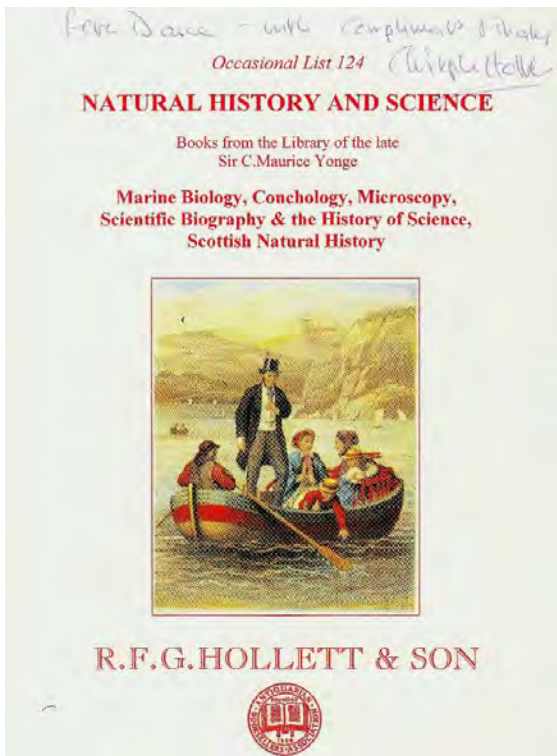


figure 4: The author's copy of the sale catalogue of books from Sir Maurice Yonge's library.



figure 5: Victorian tile with shipping scene bordered by seashells and seaweed. Lot 16 from the above Phillips Sale Catalogue. Purchased by S. Peter Dance.

## Transcription of a letter from Sir Maurice Yonge to Peter Dance

(headed notepaper)

Advances in Marine Biology, C.M. Yonge [Editor],  
13 Cumin Place, Edinburgh...

19<sup>th</sup> May 1981

Dear Peter,

Only too happy to have a letter from you and answer, as best I can, your question. 'We authors, Ma'am' as Disraeli said to Queen Victoria, 'have problems in common' (or words to that effect).

I am not surprised that you have had difficulty in finding a copy of 'A Year on the Great Barrier Reef'; there was a first edition of some 1000 copies and a solitary reprint of like numbers. I made a few hundred pounds, reduced by the amount that Putnam' took off for proof corrections. No, my successes have been 'The Seas' with Freddie Russell published [by Warne] in 1928 which went into four editions with many reprintings between; for many years it was unique and had a major effect on readers in this country and the USA. Nowadays it is just one out of almost hundreds and the enlarged 4<sup>th</sup> edition (in format and length) we produced a few years ago has not sold well. But over the years Freddie and I must have made some thousands each. We were in our 20s when it was written but it fitted surprisingly well — he on fish and plankton and I on the shore and invertebrates with oyster culture. I had to mug up the chapter on coral reefs! This was improved in later editions after the Great Barrier Reef Expedition (1928—29).

My second, purely personal, success was with 'The Seashore' (publ. Collins 1949) (figure 5). This in the original hardback New Naturalist edition remains in print while it also appeared as a Fontana paperback maybe 10 years ago. It owed an enormous amount to Douglas Wilson's colour photos which were very numerous in those days — now reduced to some eight or ten. [William A.R.] 'Billie' Collins used to tell me that this was the best-selling of all the New Naturalist series, but maybe he said that to all authors. I see that during the past year I received some £317 (largely from the paperback); this 31 years after initial publication. I have made a lot of very welcome money from this book; however I think I gave value for money — it is much the best written of my books.

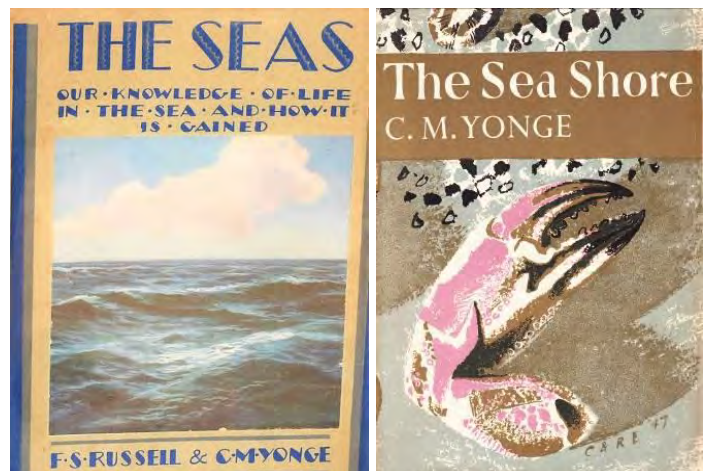


figure 6: Covers of the first editions of *The Seas* and *The Sea Shore*.

My other sole effort was the New Naturalist 'Monograph' on *Oysters* originally published [by Collins] in 1960 with a second (I think identical) edition in 1966. When that went the publishers decided, to my personal regret, not to continue. I had been working on oysters from 1924—27 at Plymouth and since then have visited oyster beds all over the world. So these bivalves are very close to me.

My other success, this time in collaboration with John Barrett, was 'Collins Guide to the Seashore'. this is just a descriptive account of shore species (animals and plants) which I took on mainly because it gave an outlet to my daughter's great talent as an illustrator. She did the majority of the colour plates although she got married and the final plates came from other hands. This has sold very well indeed — my last copy dated 1976 is the 8<sup>th</sup> printing and it goes steadily on — very largely, I think,

because it is an Open University book. Anyhow my half royalties have been another major help.

A more recent book, with Tom Thompson doing two chapters, on '*Living Marine Molluscs*' (publ. Collins, 1976) has been a failure, slightly redeemed by Tucker [Abbott] who sold some 100s in the USA. I put a lot into this but it fell between two stools of popular and scientific writing.

Of course, over the years I have done a great amount of journalism, initially (in the 1920s) in the *New Statesman* and like journals but over the years all over the place: *Times*, *Guardian*, *Sunday Times*, *Glasgow Herald* and many defunct journals, most recently in *History Today*.

Now, looking at your letter again, I realise how far I have diverged from the questions you pose. No, never thought much of this Great Barrier Reef book — written in too great a hurry (??6 months) — OK in describing what we did and I think accurate enough in the then state of knowledge. Obviously, it would be very different if written now. The major differences concern the significance of the symbiotic algae (zooxanthellae) now known to be a major source of food to the corals, this by way of organic compounds which diffuse out through the cell membranes. And, of course, since the atom bomb tests at Bikini and Eniwetok, we know that Darwin's subsidence theory is correct, at any rate for these atolls. And the ecological surveys and oceanographic work that accompanied these bomb tests provided an enormous range of knowledge about coral reefs. Work on physiology, skeletal growth etc, came later from the individual research of Tom Goreau in Jamaica. I became associated with him in 1964 until his death in 1970 (only in his 40s). However, my work with him — all over the world (Pacific, Caribbean and Red Sea — although I did not go to the last named, only worked on what he there discovered) was largely on bivalves, notably on *Tridacna* and this remarkable mytilid, *Fungiacava eilatensis* [see T.F. Goreau et al, 1969] which bores (or better dissolves its way) into fungid corals.

I seem to have wandered off the point yet again. But this question of the length taken to write books is difficult in my case where I have always had other preoccupations: research, administration and, particularly at Bristol where I had minimal

staff, teaching. I used to write very easily but as years pass get more critical so take longer. But I cannot write scientific papers and general books or journalism at the same time — in the former one has to write as concisely as possible in the latter to repeat everything in different words.

I admire your *Shell Collecting: an illustrated History* (publ. Faber, 1966) enormously and was proud to be asked to write the Foreword — here my two interests in history (which I studied in Oxford in 1919 and remains a prime concern) and in molluscs which developed later in Edinburgh and elsewhere, but especially in the Pacific, join hands.

Would you care to have some of my papers? They are all on molluscs that I have studied in life and in so very many places. Perhaps now I should stop — I can, as you see, still manage a typewriter but am not what I was, perhaps not surprising in my 82<sup>nd</sup> year. Was looking forward to attending the centenary celebrations at the B.M. (N.H.) next week but getting increasingly dubious whether I can manage it — heart not so good and suffering from Parkinsonism — fortunately not the form that causes tremor of the hands — I can still dissect under the binocular [microscope]. However, in other respects not a condition to recommend to others.

Very nice to have heard from you. I fully return the good wishes you send me.

yours ever,  
Maurice Y.

P.S. And then there is this editing — Russell and Yonge still at it (now with help from John Baxter) 53 years after!

P.P.S. — see what a stamped addressed envelope produces.

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\*[www.jcu.edu.au/library/find/books-dvds-and-more/special-collections/sir-charles-maurice-yonge-collection](http://www.jcu.edu.au/library/find/books-dvds-and-more/special-collections/sir-charles-maurice-yonge-collection). [Ed.]

## More albino *Planorbarius corneus*

I was reminded of Tom Walker's account (*Mollusc World* **48**:17) of red *Planorbarius corneus* in his garden pond when I came across this species in a pond at the home of my daughter and family in Pirton, Herts. On 23<sup>rd</sup> May there were several 'red' individuals but also at least two which appeared true 'albinos': ie minus the red colour that occurs in albino individuals due to the presence of haemoglobin. On checking a week later, I only found dead shells.

*P. corneus* can live for about three years but is often an annual species where juveniles hatch in May and the adults die at about the same time the next year (Piechocki and Wawrzyniak-Wydrowska, 2016). Were the yellow bodies of the individuals that I observed an indication that towards the end of their life the snails' haemoglobin levels are greatly reduced, and that their death is partly due to an inability to retain and absorb oxygen?

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Peter Topley



*Planorbarius corneus* with unpigmented body; Pirton, Herts.



## 1. INTRODUCTION

This article considers the role of molluscs in the diet of badgers, firstly examining what appears in the literature on the subject. It then focusses on describing the results of a study into the feeding habits of two urban badger clans living in Brighton, East Sussex. It gives a general description of their diet before focussing in much greater detail on the part played by molluscs (snails and slugs) and finishes with a consideration of the possible impact of badgers on some molluscan populations. This article maybe one of the very few giving details about specific species consumed.

## 2. BACKGROUND INFORMATION ON BADGER DIET: FOCUS ON MOLLUSCS

Neal (1948) suggested that badgers were omnivores eating whatever happens to be available and edible in a particular locality. Roper (2010) came to a broadly similar conclusion suggesting that their diet was subject to substantial amounts of regional, seasonal and inter-annual variation – that they were opportunistic omnivores in which prey consumption, including in some areas the inclusion of earthworms, is chiefly determined by prey availability. Kruuk produced a series of papers in the late 1970s and 1980s (see Kruuk 1989 for refs.) proposing that badgers were instead specialist worm predators. Further consideration of facts since that time suggests that although worms do form a substantial, even staple, part of badger diet in some parts of Europe, their consumption seems linked to availability; if other alternatives are present, including certain plant materials (particularly if in quantity), then these will be consumed as well.

Despite the voluminous literature on badger diet, very little has been written about their consumption of molluscs. In his New Naturalist monograph Neal (1948) makes several references to molluscs as badger food stating, ‘Mollusca are

commonly eaten, especially slugs’ and ‘I have heard badgers scrunching up snails - a sound that cannot be confused with anything else’. In describing the stomach contents of 9 badgers he observed slugs in 3. Then in a badger diet table summarising 11 literature and other sources (covering the period 1887 – 1945) slugs and snails are each mentioned seven times as dietary items; the former being described as common and the latter occasional as dietary items. More recently

Neal and Cheesman (1996) give an anecdotal description of badgers climbing elder and beech trees to a height of 5m in pursuit of slugs. In the recent Collins New Naturalist volume Roper (2010) wrote, ‘The molluscs most commonly eaten by badgers are slugs and snails. The sound of badgers crunching up snails is unforgettable, but I know of no study in which snails and slugs have been found to constitute a significant proportion of the diet. Badgers have also been reported to glean mussels (*Mytilus* spp) from estuarine river banks’.

If little is written about molluscs as badger food then there is an almost complete absence of information on the specific species consumed. In an Italian badger diet study, Biancardi *et al* (1995) listed 100 different species of plants, arthropods, worms, molluscs, birds and mammals consumed in the north of the country. Examination of the paper’s species list reveals that of 949 items consumed only 5 were of molluscan origin (0.53% of the total). These were not identified to species level but simply to ‘Gastropoda non ID’.

## 3. A BADGER DIET STUDY IN BRIGHTON: AN OVERVIEW WITH A FOCUS ON MOLLUSCA

In autumn 2015 Peter Breivik undertook a final year, undergraduate project at Brighton University, investigating the diet of two urban badger clans living to the east of the city (figure 1).

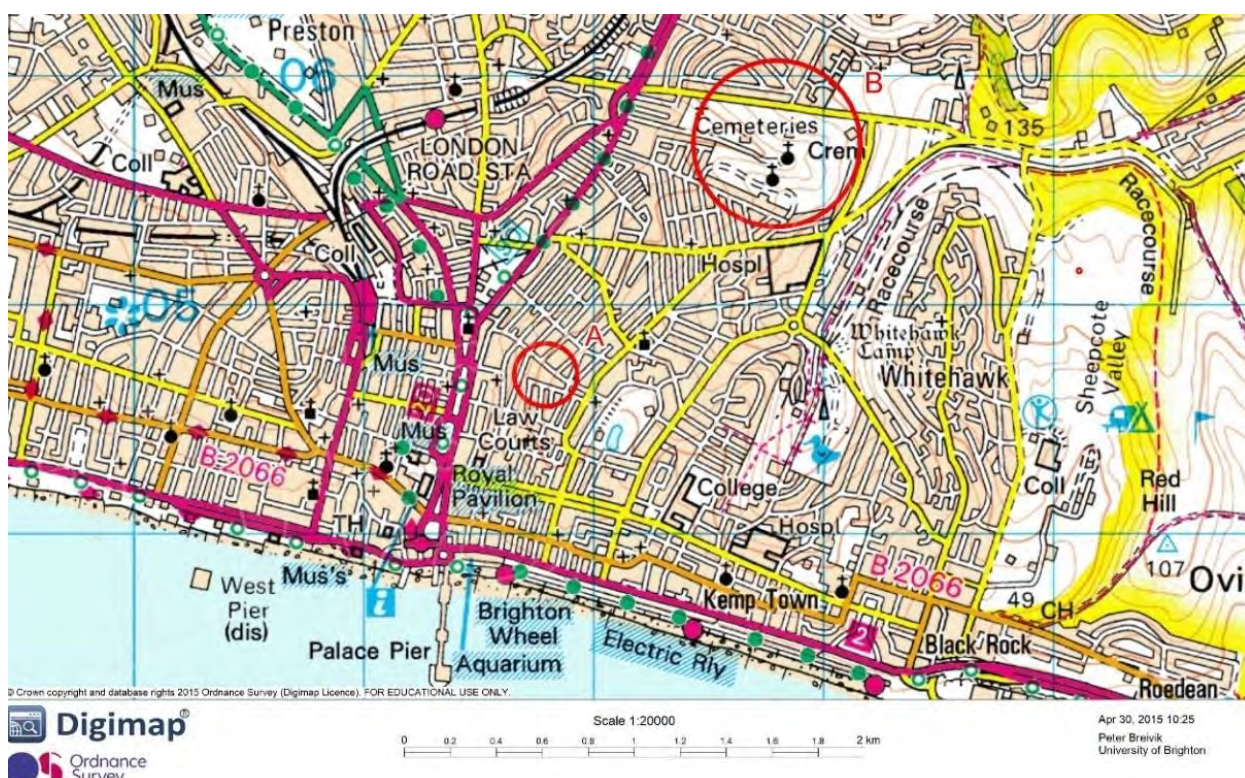


figure 1: OS map of Brighton showing the two study areas: A (small red circle) = Chates Farm B (larger upper circle) = Brighton Borough Cemetery. (figure from Breivik, P., 2015)

### 3.1 Project Methods

55 badger faecal samples were collected from two sites: (1) Brighton Borough Cemetery, a 17ha area of semi-natural habitat and (2) Chates Farm a small 0.25ha communal allotment surrounded by terraced housing (Fig. 1). The sites lie about 1.5 km apart and there is no known foraging overlap between the territories of the two clans.

Badger faecal samples ('scats') were collected approximately weekly from the latrines situated near to the set entrances. A total of 55 scats were removed (Brighton Cemetery n = 28 and Chates Farm n = 27). The collected samples were initially placed into 70% ethanol and following a period of soaking were then washed with water in a 1.25 mm sieve. The remaining solid fraction was then examined for identifiable food items. Seeds, molluscan shell fragments and other remains were retained for later study. Dietary data collected included 'food items', the finest level of identification reasonably possible (e.g. apple, beetle, peanut); in some cases individual species could be identified and these included several species of mollusc. To simplify presentation all food items were placed into 6 categories: (1) fruit and berries, (2) mollusc, (3) invertebrate larvae, (4) arthropods (adult forms), (5) vertebrate remains and (6) anthropogenic (a very mixed and slightly subjective category). Data presentation followed two methods previously used by Kauhala *et al* (1988) these being:

1. **Percentage scats:** This is the frequency of occurrence expressed as a percentage of the total number of scats - the proportion of faecal samples containing a particular food category or item;
2. **Percentage food items:** The frequency of occurrence expressed as a percentage of the total number of occurrences of all food items.

Possible molluscan remains were separated from other food items being found in 18 (/28) and 15 (/27) scats from the Cemetery and Chates Farm sites respectively. Of these the molluscan residues from 17 scats (9 from Brighton Cemetery and 8 from Chates Farm) were sent to MJW for study and comment. This selection included all samples believed to include slug remains (plates and granules). Low-power binocular examination of the material allowed identification of virtually all items, sometimes helped by comparisons with reference specimens. This work was assisted by MJW's D.Phil. research experience of identifying quaternary shell remains (typically 'bleached' and often fragmented). MJW's identification results were

confirmed, by a second examination of the material by Dr. R.C. Preece (University Museum of Zoology University of Cambridge).

### 3.2 Results

#### 3.2.1 General results

Table 1 and figure 2 summarise the results from the Brighton study including total of all food items (as expressed in different categories) and the % of badger scats containing item.

	CEMETERY		CHATES FARM	
	% food items (n=82)	% scats (n=28)	% food items (n=96)	% scats (n=27)
<b>Fruit/berries</b>	35%	75%	18%	48%
Rowan	18%	54%	0%	0%
Yew	7%	21%	10%	37%
Blackberry	5%	14%	7%	11%
other	5%	4%	1%	4%
<b>Mollusc</b>	35%	64%	21%	56%
snail	24%	57%	19%	56%
slug	11%	18%	2%	4%
<b>Insect larvae</b>	17%	46%	12%	44%
<b>Arthropod</b>	3%	11%	4%	15%
coleoptera	2%	7%	1%	4%
hymenoptera	0%	0%	1%	4%
myriapoda	1%	4%	0%	0%
other	0%	0%	2%	8%
<b>Vertebrate</b>	0%	0%	0%	0%
<b>Anthropogenic</b>	10%	36%	45%	93%
fruit	8%	14%	29%	89%
vegetable	2%	29%	12%	15%
meat	0%	0%	4%	15%

table 1: A summary of the results for Brighton Cemetery & Chates Farm adopting the two methods described above.

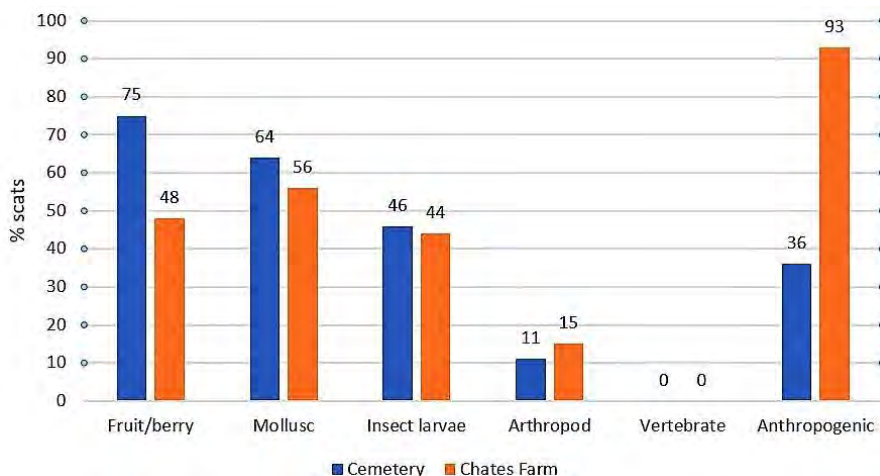


figure 2: The percentage frequency of occurrence of items in the 6 food items categories.

#### 3.2.2 Molluscan results

Study of the molluscan scat remains from Brighton Cemetery and Chates Farm produced about 11 species of snail and at least 3 slug species. Tables 2 and 3 present results per separate sample per site with Table 4 providing a summary total of molluscs as remains in terms of mollusc remains in relation to total identified food items in all scats and also the % of scats containing slug and snail remains. Table 5 provides a total summary of all species and numbers of each from the two survey site samples.

Sample No.	Scat colln. date (2014):	Identifications & notes
1	22.09	2 slug plates (Limacidae or Agriolimacidae; probably <i>Limax</i> spp); <i>Pomatias elegans</i> fragments, a fragment of <i>Cornu aspersum</i> .
2	3.10	3 slug plates (Milacidae such as a <i>Milax</i> spp); possible fragment of <i>Cornu aspersum</i> (not counted in scored results)
3	10.10	2 slug plates (Milacidae such as a <i>Milax</i> spp)
4	20.11	<i>Cornu aspersum</i> fragments; a round calcareous granule that is probably from an Arionidae slug eg. <i>Arion ater</i> . (but possibly from an earthworm)
5	28.11	1 slug plate (Milacidae such as a <i>Milax</i> spp); a fragment of <i>Pomatias elegans</i> ; a <i>Cornu aspersum</i> fragment. Whole single specimens of very small species <i>Carychium minimum</i> and <i>Vallonia excentrica</i> ; both shells in-filled with soil.
6	2.12	Many <i>Cornu aspersum</i> fragments; 1 fragment of a larger Helicellid possibly <i>Monacha cantiana</i> or <i>Cepaea</i> spp
7	2.12	<i>Cornu aspersum</i> fragments; fragments of probable <i>Candidula</i> spp; fragments of millipede (Myriapoda; Diplopoda) exoskeleton.
8	6.12	<i>Cornu aspersum</i> fragments.
9	6.12	Numerous <i>Cornu aspersum</i> fragments.

table 2: Badger Faecal Shell Fragments from Brighton Cemetery.

Sample No.	Date: (2014)	Identifications & notes
A	18.09	Numerous <i>Cornu aspersum</i> fragments (as two shell apices were present at least two complete individual snails).
B	18.09	<i>Cornu aspersum</i> fragments.
C	18.09	<i>Cornu aspersum</i> fragments.
D	18.09	<i>Cornu aspersum</i> fragments.
E	18.09	2 slugs plates (Limacidae or Agriolimacidae ; smaller size so a variety of slug species possible); <i>Cornu aspersum</i> fragments.
F	10.10	Numerous <i>Cornu aspersum</i> fragments; the apical half of a <i>Cochlicopa cf lubrica</i> ; fragments of woodlouse (Oniscidea) exoskeleton
G	30.11	Two <i>Cornu aspersum</i> fragments and a fragment of a marine cockle, <i>Cerastoderma</i> sp..
H	1.12	Numerous <i>Cornu aspersum</i> fragments; <i>Oxychilus cf cellarius</i> , <i>Hygromia cinctella</i> (apical whorls), <i>Trochulus cf hispidus</i> .

table 3: Badger Faecal Shell Fragments from Chates Farm.

	Cemetery	Chates Farm
<b>Slug</b>		
% items in scats	11% (9/82)	2% (2/96)
% scats containing	18% (5/28)	4% (1/27)
<b>Snail</b>		
% items in scats	24% (20/82)	19% (18/96)
% scats containing	57% (16/28)	56% (15/27)
<b>Mollusc (snail + slug)</b>		
% items in scats	35% (29/82)	21% (20/96)
% scats containing	64% (18/28)	56% (15/27)

table 4: Summary of badger molluscan consumption.

Species	Brighton Cemetery (presence/9 samples)	Chates Farm (presence / 8 samples)
<i>Cornu aspersum</i>	7 (78%) or 8 (89%) if possible fragment in sample 2 is included	8 (100%)
Arionidae ( <i>Arion</i> sp)	1?	-
<i>Candidula</i> sp	1	-
<i>Carychium minimum</i>	1	-
<i>Cepaea</i> spp or <i>Monacha cantina</i>	1	-
<i>Cochlicopa</i> sp	-	1
<i>Hygromia cinctella</i>	-	1
Limacidae /Agriolimacidae	2	2
Milacidae ( <i>Milax</i> spp or <i>Tandonia</i> spp)	6	-
<i>Oxychilus cf cellarius</i>	-	1
<i>Pomatias elegans</i>	2	-
<i>Trochulus hispidus</i>	-	1
<i>Vallonia excentrica</i>	1	-
<i>Cerastoderma edule</i>	-	1

table 5: Summary of mollusc species from combined badger scat samples.



figure 3: Faecal shell fragments from the badger scat samples. (photo: Ben Rowson, National Museum of Wales, Cardiff)

- A *Cornu aspersum* fragments (sample D, Chates Farm 18.09.2014);
- B *Cerastoderma* sp. fragment (sample G, Chates Farm 30.11.2014);
- C Large limacid slug plate (sample 1, Brighton Cemetery 22.09.2014);
- D Milacid slug plates (sample 2, Brighton Cemetery 3.10.2014);
- E *Hygromia cinctella* spire (sample E, Chates Farm 1.12.2014);
- F *Pomatias elegans* fragments (sample 1, Brighton Cemetery 22.09.214).

### 3.3 Discussion

#### 3.3.1 General results

About a 28% of all items were anthropogenic and almost two-thirds of all scats contained anthropogenic content. Comparing the two sites anthropogenic food appears to be more important at Chates Farm (45% of all food items) compared to Brighton Cemetery (10% of all food items). This result is, perhaps, not surprising as Chates Farm has numerous compost heaps, grows crops for human consumption and the site also has easy access to densely packed gardens (for percentage breakdown of items

and percentage of scats containing anthropogenic remains see Table 1 & Fig. 2). Anthropogenic food items are therefore judged to play a major part in the diet of badgers in this area of Brighton.

As discussed above (Section 2) worms can be important items in badger diet in some areas and at certain times of the year. Worm presence was not investigated during this project. According to a study of urban badgers in Bristol (Harris 1984), earthworms were not a major food item and were only used as a supplement to other food sources. Badger feeding behaviour was not observed, but the faecal samples suggested that, although some earthworms were certainly eaten (a very few worm skins were found in a few scats), they probably did not constitute a major part of the badgers' diet during the study period.

### 3.3.2: Molluscan results

Shell parts and slug plates in scats from both Brighton Cemetery and Chates Farm indicate that Mollusca feature in badger diet at both sites. At the cemetery molluscan remains were found in 64% of all scats (57% contained snails and 18% with slugs; some contained both). At the same site 35% of all items in all scats were of molluscan origin. (24% being snail and 11% slug). At Chates Farm molluscan remains were found in 56% of scats (with 56% containing snails and 4% slugs). At this site 21% of all separate items found were molluscan (19% snail and 2% slug). Combined molluscan presence from both sites was 60% of all scats. The number of snails and slugs eaten did not vary significantly between the two sites either in terms of percentage scats ( $\chi^2 = 0.07$ ,  $P > 0.05$ ) or percentage occurrence ( $\chi^2 = 1.32$ ,  $P > 0.05$ ), and the quantity was consistent throughout the study period. Despite the relatively high frequency of occurrence, Mollusca probably do not contribute significantly towards the diet of badgers in terms of mass consumed. Several issues need to be considered; the use % items counted tends to underestimate larger items (e.g. larger animals like rabbits or large fruit), but overestimate small items like Mollusca and beetles. A further factor that is likely to exaggerate the relative importance of snails in badger diet when using % food items, is that one large snail will produce many shell fragments which, if scored individually tend to exaggerate apparent numbers. A more accurate but difficult approach to address these problems would attempt to estimate food volume. Volume-based methods show more accurately the relative importance of a food whereas frequency-based methods, by contrast show how often it is eaten. Therefore, in order to provide the most accurate possible method volume consumed should ideally be used alongside a frequency-based method.

It is difficult to estimate the number of snails and slugs consumed from faecal analysis. Unless apical fragments are present it is hard to estimate the number of individuals present from a mass of shell fragments possibly coming from a single snail (typically in the Brighton *Cornu aspersum* samples). By contrast, for Limacidae, Agriolimacidae and Milacidae slugs, numbers of individual animals can be estimated as one animal is represented by a single slug plate. Consumption of Arionidae is difficult to detect from faecal studies; these slugs do not produce relatively easily identifiable plates, but instead 'slug granules' or a chalky paste (Rowson *et al* 2014). These are of little use in determining numbers of slugs eaten because: (1) there are not produced in a fixed number per slug, (2) some of the large granules can be confused with similar structures produced by

Annelid earthworms and (3) due to their often small size such granules are readily dissolved by acids in a badger's stomach.

Thirty-three scats contained some molluscan remains and samples from 17 of these were examined by MJW (9 Brighton Cemetery and 8 Chates Farm). The samples revealed the presence of at least 12 species. As slug plates were only identified to the family levels Limacidae, Agriolimacidae and Milacidae these may have represented more than three species. The garden snail *Cornu aspersum* was the most frequent prey item, occurring in 78% [possibly 89%] and 100% of the Brighton Cemetery and Chates Farm samples respectively. The high frequency of this snail is not surprising because of its relatively large size and habit of crawling after dark, especially on mild and damp evenings. The second most frequent item (taken combined) are the slugs, with totals of eight plates from Brighton Cemetery and two from Chates Farm. The badgers at both sites were almost certainly consuming Arionidae slugs, particularly the larger species (e.g. *Arion ater*, *Arion subfuscus*), but as discussed above there are difficulties in detecting the presence of their granules in the faeces. This means that the consumption of Arionidae slugs by badgers, although probable, cannot be easily confirmed in faecal remains. Of the other species the remains of *Pomatias elegans*, *Cochlicopa* sp, *Hygromia cinctella* and an unidentified medium-sized helicid (possibly *Cepaea* sp or *Monacha cantiana*), may have been deliberately eaten as they appear in scats as broken shells and / or shell apices. A number of snails appeared as whole shells (*Oxychilus* sp, *Candidula* sp) and so may have been ingested whole or possibly eaten accidentally with other food materials. The two smallest species, *Carychium minimum* and *Vallonia excentrica* were also present as whole adult shells. It would seem likely that these were too small to have been eaten deliberately, but probably ingested accidentally with soil when another soil-living organism was consumed (e.g. crane fly larvae *Tipula* sp). One Chates Farm scat contained a cockle fragment, probably *Cerastoderma edule*. Whether the shell was eaten as a food item, possibly from a compost heap or as a food contaminant is unknown. It seems most unlikely that it was gathered on the seashore; Chates Farm lies about 1 km north of the Brighton seafront - a badger travelling there would have to negotiate many roads and dense housing. No other marine molluscan remains were found in any of the other scats.

A problem with estimating mollusc numbers by the presence of shell remains in badger scats is that of shell loss in the alimentary canal. Munson and Payne (1985) undertook a study where dogs were fed freshly killed squirrels to investigate the extent to which bone was lost between ingestion and subsequent total faecal egestion. The results demonstrated a remarkable degree of variability; in some faeces there was almost total bone loss or extreme corrosion whereas in others some bone was very fresh; some phalanges were still encased in skin and so readily recognisable. In discussing these results Payne stated, 'My guess is that it mainly relates to the amount of chewing and the time food spends in the stomach. Some dogs will gulp food down very quickly if they have a lot - so it may enter the stomach in larger pieces, and spend little time in the low pH of the stomach'. There may be a similar situation in badgers which are also medium-sized carnivores. It is possible that in some situations mollusc shell remains are mostly in the gut especially with acidic corrosion in the stomach whereas on other occasions they pass through with little apparent change. As with dogs, the shell loss in

badgers may depend upon a number of factors including the bulk of food moving through the gut and possibly also the food composition at any one time; are shell remains less damaged if they are mixed with a bulk of crushed shells and/or plant material? If at least a proportion of shells are lost due to the stomach acids on at least some occasions, then total molluscan consumption as revealed by scat analysis is likely to underestimate the quantity and possible variety of Mollusca eaten by badgers.

#### 4. CAN BADGERS HAVE AN IMPACT UPON MOLLUSC POPULATIONS?

Examination of the faecal remains of the badger clans in Brighton demonstrated *C. aspersum* to be a regular dietary item; the badgers seemingly having little difficulty in crushing the shells which were then swallowed together with snail bodies. Might molluscan predation by badgers have a negative impact upon some larger snail and slug species? If badgers readily eat *C. aspersum* then they might also have little difficulty in consuming the slightly larger and thicker-shelled Roman snails (*Helix pomatia*); their strong jaws and crushing teeth can, after all, tackle a very wide range of prey including hedgehogs and young rabbits! There is, as yet, no reliable evidence to show that badgers eat *H. pomatia*, but their English distribution overlaps with all of the *H. pomatia* range. *H. pomatia* often emerging in large numbers on warm, humid spring and summer evenings and would be easily located and captured crawling on the ground or climbing low vegetation providing an easy, high protein meal for a badger. A possible case of badger impact is that on a large population of *H. pomatia* first observed at a site (lightly cattle-grazed rank unimproved grassland) on the North Downs scarp slope west of Dorking, Surrey in 2008 and 2009. A return visit there in 2016 (MJW personal observation) despite a thorough search (including for dormant buried individuals) found no signs of the former population, but did locate an active badger set close by. There are, of course, many other potential reasons for the apparent loss of this population (e.g. attack by nematode parasites and sciomyxid flies or illegal human collection for food), but badger predation is suspected of being one. Confirmation would, of course require the direct observation of badgers consuming the snails and/or evidence of the readily identifiable *H. pomatia* shell remains in badger scats. These would need to be collected relatively soon after snail

consumption. As badger predation on *H. pomatia* is likely to quickly deplete a population then shell remains in scats are only likely to be present for a relatively short period of time. As *H. pomatia* is a slow growing, long-lived species, heavy and/or persistent feeding by badgers may well have a significant negative impact upon a predated population.

If badgers prey upon significant numbers of larger slugs and snails (larger *Arion* spp, *Cepaea* spp, *C. aspersum*, *H. pomatia*) might this have an indirect affect upon other species such as song thrushes and hedgehogs where molluscs are an important dietary item?

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#### 6. ACKNOWLEDGEMENTS

Thanks are due to Bas Payne for valuable discussions, to Peter Topley on providing helpful feedback on a draft of this article and also to Ben Rowson for his skilful construction of the molluscan artefact plate.

## Honorary Treasurer's Report on the Financial Statements to 31<sup>st</sup> December 2018

Nick Light February 2019

The Society has had a challenging year with funds of £111,450, being a loss of £12,677 in the year.

Our overall income in the year at £18,245 was £612 below 2017. Subscription income fell by £242 to £12,756 but as we continue to operate at break even before revaluation gains or losses and non-recurring costs on the web site, we see no reason at present to change subscription levels.

Thanks to our editors' close control, this year's publication costs have been reduced by £2,532. We do expect these to rise a little in 2019 as we include a little more colour in the journal. We had to update the website architecture to meet changing security requirements and spent £4,550 in 2018 – included in sundry expenses. This project will be concluded in 2019 and we anticipate further costs of up to £2,000.

[continued on next page]



figure 1: The Conchological Society AGM, 6<sup>th</sup> April 2019, Natural History Museum, London.

(photo: Peter Topley)

Whilst our investments generated income of £4,359, they followed market performance in the second half of the year and we had to write them down by £8,263. Sadly the market will remain volatile until the country has a clear plan for its future. Council has agreed to stick with our current investments until the outlook is clearer.

2019 has started well with £3,251 subscriptions paid in advance at the end of 2018 and a further £3,250 paid in the first two weeks of 2019. Thanks to all of our members and subscribers who have arranged to pay promptly. My thanks also to Rupert Honnor, our new honorary examiner for giving his time and expertise to examine the accounts.

Our healthy reserves will enable us to continue to meet our charitable objectives in 2019 and beyond.

		2018	2017
<b>Fixed Assets</b>			
Investments at market value	3	£105,298	£113,561
<b>Total fixed assets</b>		<b>£105,298</b>	<b>£113,561</b>
<b>Current Assets</b>			
Debtors	4	£1,000	£1,020
Cash at bank and in hand		£10,973	£16,151
<b>Total current assets</b>		<b>£11,973</b>	<b>£16,171</b>
<b>Short term creditors</b>	5	<b>£5,731</b>	<b>£5,516</b>
<b>Net current assets</b>		<b>£6,242</b>	<b>£10,656</b>
<b>Total assets less current liabilities</b>		<b>£111,540</b>	<b>£124,217</b>
<b>Unrestricted income funds</b>		<b>£111,540</b>	<b>£124,217</b>

**CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND**  
**FINANCIAL STATEMENTS**  
 FOR THE YEAR ENDED 31 DECEMBER 2018  
 Statement of Financial Activities

	Note	2018	2017
<b>Incoming resources</b>			
Fees and subscriptions		£12,756	£12,898
Investment income	1	£4,359	£4,860
<b>Income from activities for generating funds</b>		<b>£214</b>	<b>£122</b>
Other incoming resources		£30	£988
Donations and legacies		£868	£96
<b>Total incoming resources</b>		<b>£18,245</b>	<b>£18,867</b>
<b>Expenditure</b>			
Publications costs		£11,374	£13,808
Stationery, postage and advertising		£332	£518
Meetings costs		£864	£859
Sundry expenses and fees		£4,948	£988
Membership Services		£1,371	£1,297
Grants	2	£3,680	£1,660
<b>Total expenditure</b>		<b>£22,659</b>	<b>£19,226</b>
<b>Net incoming resources</b>		<b>£4,414</b>	<b>£368</b>
Gains on revaluation		£8,263	£4,821
<b>Net movement in funds</b>		<b>£12,677</b>	<b>£4,452</b>
<b>Fund balances brought forward</b>		<b>£124,217</b>	<b>£119,765</b>
<b>Fund balances carried forward</b>		<b>£111,540</b>	<b>£124,217</b>

[A copy of the full Treasurer's Report for 2018 as well as all the reports presented at the Conchological Society's 2019 AGM can currently (June 2019) be downloaded in pdf format from <https://www.conchsoc.org/node/6654>. (Ed.)]

## Field meeting in Standish Wood, Gloucestershire, May 11<sup>th</sup> 2019

*Keith Alexander and John Fleming*

A field meeting was organised in the Cotswold Hills targeted at *Ena montana* as this species has recently been assessed as being Near Threatened in Great Britain (Seddon et al, 2014) and the Cotswolds are known to support the largest extent of habitat in the country (Kerney, 1999). Last year's field meeting in the Cotswold Commons and Beechwoods NNR (Alexander & Fleming) was intended partly as a start-up, to meet somewhere that the species could be guaranteed to be found on demand, to introduce local recorders to the species and techniques for finding it, and to discuss its habitat associations. The 2019 field meeting was targeted at a locality where the species has not been reported for in excess of 25 years: the National Trust (NT) property of Standish Wood, where the species had been reported from a number of localities arising from the first NT Biological Survey of the land in their ownership, during 1985. This area lies along the Cotswold escarpment immediately north of its interruption by the River Frome by Stroud.

This NT property comprises three distinct sections: Standish Woods, Haresfield Beacon and Shortwood which sits in between. Standish Wood comprises a large expanse of ancient woodland which has been extensively modified by forestry. In contrast Shortwood comprises a large expanse of open grassland with remnants of ancient wood pasture on steep slopes, the very impressive veteran open-grown beech trees now engulfed within secondary woodland and scrub woodland. The 1985 data included a single adult recorded by KA at SO822067 and another record from SO8307, plus a less well-documented record from SO8208 which was thought to relate to Shortwood.

The leaders were joined by ten members of the Gloucestershire Invertebrate Group (GIG) and Gloucestershire Naturalists' Society, meeting in the National Trust's Haresfield Beacon car park on 11<sup>th</sup> May. The morning was spent exploring Shortwood but found no *E. montana* on this occasion. Parts of the area do appear to provide suitable habitat and *Pomatias elegans* was the most interesting species encountered amongst the final species tally; 16 species of slugs and snails were recorded including *Boettgerilla pallens* and *Arion fasciatus*.

Fortunately, we did much better in Standish Wood after lunch. After searching a large number of tree trunks down through the wood – mostly beech - we eventually came to an area of ash-larch woodland which occupies a level strip in the centre of the wooded slopes, at SO831079. Both ends of the stand contained young to mature larch and ash trees but the central section of about 100m length lacked larches – presumably harvested some years previously (figure 1). *E. montana* was found on the trunks of many of the ash trees in this central section but just one in the areas containing larches. The very first snail was found by Tony Taylor of GIG but the leaders then joined in the hunt in this area and a total of 10 adults and 26 immature specimens of *E. montana* were eventually found – an exceptional result compared with most reports for this species, and on a site with no records for more than 35 years (figure 2). Most were found on ash or sycamore trunks with occasional specimens having ascended up to 4m above the ground. The trunk girths ranged from 0.37 to 1.01m girth at breast height. The impression gained was that the *E. montana* were on the better-lit sides of the trunks, either southerly-facing or – where this side was heavily shaded by conifers or beeches - then in the lightest alternative direction.

This hypothesis was not however properly tested, although the better-lit sides of the trunk will of course be more productive in the light-favouring epiphytes on which the snail is presumed to be feeding; just one snail was associated with a mossy trunk section, the majority were found on those trunk areas with fine crustose lichens. It may also be important to note that no *E. montana* nor *Z. subrufescens* could be found amongst the field layer vegetation despite regular use of an entomological sweep-net. Both species and especially the latter may normally be found this way and it is therefore suggested that field layer vegetation may only be used by these snails later in the field season.



figure 1: Keith Alexander and John Taylor finding trees with *Ena montana* and recording the tree characteristics (including measuring its girth) in Standish Wood. (photos: John Fleming)



figure 2: *E. montana* on Ash trunk, Standish Wood. (photo: Keith Alexander)

A total of 12 species of slugs and snails were found in Standish wood and noteworthy also was the high count of *Zenobiella subrufescens* (figure 3). Present in the same area were a number of *Merdigera obscura* and size and shape comparison was made between adults of that species and juveniles /immatures of *E. montana* to avoid confusion.



figure 3: *Zenobiella subrufescens* on Ash trunk, Standish Wood. (photo: Keith Alexander)

The following day KA carried on checking known sites for *E. montana* which have no modern records and which had been considered as priority sites for investigation but proved difficult to arrange. He first travelled to Blockley in the north Cotswolds, to check out a cluster of records from the Dovedale and Bourton Woods area above the village, the most recent being from 1999 when GIG had had permission to explore the Woods. The estate which owns Bourton Woods now actively discourages public access without an annual permit and so these woods were not entered on this occasion. The narrow, wooded valley of Dovedale which leads up to the main area of woodland was found to have been subject to considerable recent tree work, felling and removing mostly conifer trees. A single juvenile *E. montana* was found on a remaining small mature ash tree at SP160339. Further up the valley, along Five Mile Drive (SP159336), an adult and two juvenile *E. montana* were found on the trunk of a sycamore amongst undisturbed woodland. He then went on to another north Cotswold site with no 21<sup>st</sup> century records: Guiting Wood, where he had last seen *E. montana* in 1992. At that time the woodlands were unfenced and public access not discouraged, but the 2019 visit encountered a very different situation. The woodland is now fenced and signs declare monitoring by a security company. Fortunately, trees alongside the public road which passes through the edge of the wood remain accessible and a single juvenile *E. montana* was observed on an ash tree at SP079270 together with three juvenile *Merdigera obscura*. This independent exploration was therefore a great success, confirming the continued survival of *E. montana* at both sites. These two sites are of particular significance as they are relatively isolated but large ancient woodland sites on the dip-slope of the Cotswolds and represent the two most northern sites within the range of *E. montana* in the Cotswolds.

#### Acknowledgements

Thanks are due to the Cotswold Team of the National Trust for permission to investigate the molluscs of these woods; also to the Northwick Estate for permission to record molluscs in Dovedale, Blockley.

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The shared experiences of 2018 included a freezing spell in spring and a long dry summer, neither of which is usually associated with malacological plenty. I certainly received fewer complaints from gardeners than in a typical growing season! Nonetheless, the Society received a large number of records, including several surprises, in the period since the last Report (Norris, 2018). My first year as recorder also saw me get to grips with the JNCC Recorder 6 software in which the Society's data are held, and the ways in which data flow in and out.

## Activity

Over the period 27 March 2018 – 13 December 2018 a total of 5907 records were entered into the Recorder 6 database. The majority were observations made in 2017 or 2018 and came from over 60 vice-counties in Scotland, Northern Ireland, England, and Wales; a few records were also received from the Republic of Ireland. Some substantial work on datasets from the Channel Islands has been done by Chris du Feu, and will be reported upon elsewhere [see du Feu, 2019].

At the time of writing, the Society's main dataset has been exported and submitted to the NBN, to be updated on the NBN Atlas (<https://nbnatlas.org/>) shortly [the 2017 and 2018 data should now all be on NBN. (Ed.)]. For those interested, the details of the Society's different contributions to the NBN can be viewed here: <https://registry.nbnatlas.org/public/show/dp117>.

As Recorder I also took over as a designated Verifier for non-marine molluscs on the Biological Records Centre's iRecord platform (<https://www.brc.ac.uk/irecord/>). On iRecord I verified approximately 2500 additional records (the overlap with directly submitted data being very small), again from throughout the UK. I thank Roy Anderson and Martin Willing and for their assistance with a few referrals, while Chris du Feu has gone on to verify a number of additional slug records. The total accounts for nearly all observations made in 2017 or 2018 and clears a backlog for dozens of contributors, both Society members and potential members, whose submissions had been awaiting verification. iRecord is a very easy-to-use tool for submitting records from mobile devices as well as desktops and is likely to become even more popular in future. Though not perfect, its advantages include controls on taxon names and localities that can limit typographical errors, and the ease with which photographs can be attached. Around 30% of records had photographs which are very useful for verification and any subsequent correspondence with the submitter. Going through the 2017–2018 tranche of data allowed an estimate of likely identification error rates (5–15%), and gives an insight into which species are most commonly recorded (or mis-recorded). Some of these matters were discussed at Council at the December meeting. My aim is to import all Accepted records (i.e., only those considered correct by a Verifier) into Recorder 6 via the Indicia2Recorder plugin. This is a model followed by the Marine Recorder and several other UK Recording Schemes. At the time of writing, technical issues have prevented this being completed, but this is expected to be resolved soon.

Being a submission tool, iRecord should not be confused with Facebook and other social media on which sightings are discussed, but the records are not automatically captured by the Society. Ian Smith and others continue to do a

sterling job at encouraging members of the Facebook group 'Slugs and Snails of the British Isles' to submit interesting records directly to the Society or via iRecord. The majority of the noteworthy records discussed below are supported by voucher specimens examined by myself.

## Highlights

Among the records received were at least six new vice-county records. Three were of snail species: *Paralaoma servilis*, Norwich, East Norfolk (VC27), 25/4/2018, Jake Stone; *Helix lucorum* Sapperton, East Gloucestershire (VC33), 28/8/2018, Joff Elphick; *Aplexa hypnorum* Threave, Kirkcudbrightshire (VC73), 15/5/2017, Clive Walton (a VC record not previously highlighted). Another three were of slugs: *Arion fuscus* Elvedon, West Suffolk (VC26), 25/11/2015, Chris du Feu (determined from a preserved specimen); *Arion owenii* Leicestershire (VC55), 14/9/2018, Dave Nicholls; and *Ambigolimax nyctelius* Brierfield, South Lancashire (VC 59), 17/10/2018, Alex Whitlock. Of these, *Aplexa hypnorum* is the only native species. The others are introductions and with the possible exception of *Arion fuscus*, are already known to be spreading.

The period also saw yet more detections of species not previously known in the fauna. Dead shells of the operculate *Cochlostoma septemspirale* (Razoumowsky) were found in mixed sycamore woodland on chalky soil near Lewes, East Sussex (VC14) by David Adams (an adult in November 2017 and an apical fragment in August 2018) (figure 1). It is not certain whether this southern European species was living or is established at the site. Dioecious snails like *Cochlostoma* may well be less likely to found new populations than those pulmonates capable of self-fertilisation.



figure 1: *Cochlostoma septemspirale* (Razoumowsky) from woodland near Lewes, Sussex; leg. David Adams. Note operculum visible from an oblique angle.

Definitely alive, but so far represented by a single individual, was a milacid slug found by Jake Stone at Banham Zoo, East Norfolk (VC27) in April 2018. This small, extremely dark animal immediately raised suspicions of *Milax nigricans* (Philippi), a species once found near Bexhill, Sussex by H. E. Quick in 1948 but excluded from



later British lists (Anderson, 2008). However the genitalia did not match those of any British milacid species and were closer to *Tandonia* than *Milax*. One possibility, awaiting further material and confirmation by DNA sequencing, is *Tandonia retowskii* Boettger (syn. *T. kaleniczenkoi* Clessin) (figure 2). This species hails from Crimea, a region from which a number of other recently detected mollusc species were first found. As always, unusual-looking slug populations, including those in exotic or ornamental habitats, can be worth examining carefully.



figure 2: A milacid slug (possibly *Tandonia retowskii*) found at Banham Zoo, East Norfolk, April 2018. (photo: Jake Stone)

The most spectacular – and perhaps alarming – find this year must be the species rejoicing in the name of “Chinese Mystery Snail”. When searching a ditch in the Pevensy Levels, East Sussex (VC14) Evan Jones was amazed to find several living adults of a huge, dark green viviparid snail. There are no records of *Viviparus* itself from the well-studied Pevensy area. Instead, this species proved to be either *Cipangopaludina chinensis* (Gray, 1833) or *C. malleata* (Reeve, 1863), a taxon native to SE Asia but known from North America and the Netherlands as an introduction. *Cipangopaludina* is sometimes kept in the aquarium trade (I should be interested to hear if any member has ever seen it for sale in the UK). The Pevensy population is likely to have been dumped from an aquarium, other cases of which are documented in the Sussex area. Given its position in a conservation area and its history as an invasive elsewhere, Martin Willing and I reported the finding to the GB Non-Native Species Secretariat. Additional details of the find are given by Willing (2018) and a wider survey of the area is planned. Please do alert the Society to any other finds of this species. Personally, as it is at present only known from a single ditch, I think careful eradication should be considered in this instance.



figure 3 *Cipangopaludina chinensis* (Gray) found alive in a ditch on the Pevensy Levels, Sussex, leg. Evan Jones. (photo: Evan Jones)

Finally, in the October 2018 issue of the *Journal of Conchology*, Roy Anderson and colleagues report yet another alien snail, this one established near the docks at Tilbury, Essex. This opportunity is taken to reprint in colour the authors’ comparative plate of the south-eastern European *Monacha ocellata* (Roth) with the other two British *Monacha* species. Each was itself an introduction from continental Europe that became widespread; although each had a different history, and sometimes even a helping hand (e.g. Sumner, 2018).

#### Acknowledgements

I thank everyone who submitted records this year, and Adrian Norris for handing over the database in good order and his advice on the role. For assistance with software I thank Mark Wills (North & East Yorkshire Ecological Data Centre), Mike Weideli (Littlefield Consultancy) and Prakash Dabasia (National Museum of Wales). I am particularly grateful to Dave Slade (South-East Wales Biodiversity Records Centre) for his considerable help and patience in troubleshooting with Recorder 6, Indicia2Recorder, and the NBN.

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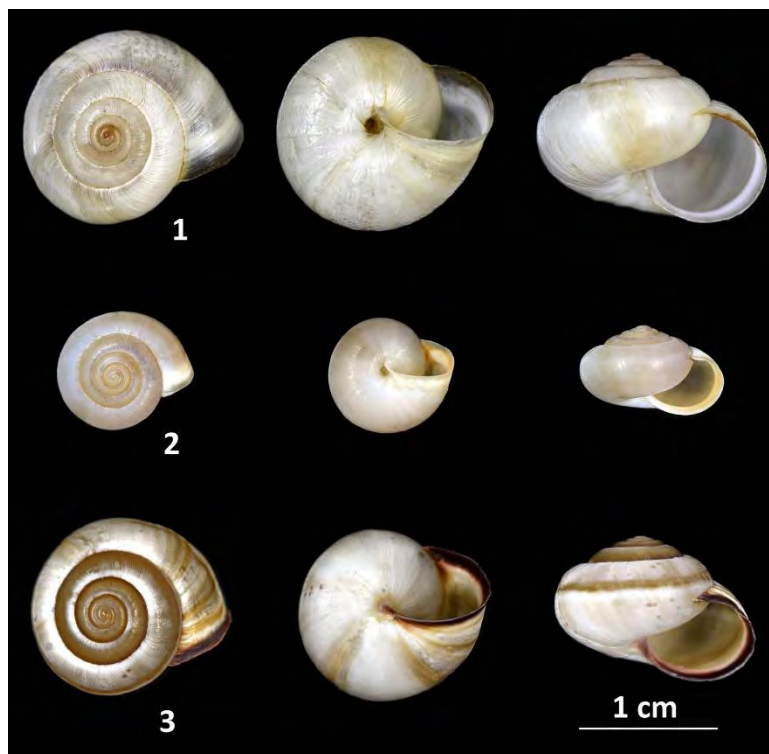


figure 4: British *Monacha* species (reproduced, with permission from Anderson et al., 2018): 1 *M. cantiana*, Luton Airport, 6th July 2003, coll. R. Anderson; 2 *M. cartusiana*, Dover, 1899, coll. A.G. Stubbs (Ulster Museum accession Mn3201); 3 *M. ocellata*, near Tilbury, 4th August 2017, coll. M. G. Telfer.

# The new Stella Turk Building on Penryn Campus of Exeter University

*Jan Light*

We drove away early from Dorset after a moderate overnight frost which was already melting in the sunshine. When we arrived in Cornwall the temperature had risen to 18 degrees! It was a memorable three days of hot weather at the end of February.

We were driving to Cornwall to take part in a celebration to mark the naming of the University of Exeter's new £12.4 million state-of-the-art research facility in Penryn, after the late Stella Turk. The Facility will establish a new centre of excellence for research and teaching, building on the success of the Science and Engineering Research Support Facility on the same Campus. The University's base in Cornwall is home to world-leading experts on subjects ranging from marine life to business, and attracts students from around the world.

The University was keen to name the building after a significant local scientist and Stella, a Cornish scientist with academic associations with the University, and who is held in very high esteem for her important contribution to marine biology and conservation, was chosen by staff and students in a popular vote. Members of Stella's family (figure 1), and former friends and colleagues from the Cornish Biological Records Unit were present for the occasion, (figure 2).



figure 1: Members of Stella's family standing outside the Stella Turk Building. (photo: Pam Tompsett)

A welcome was given by Professor Sir Steve Smith who is Vice-Chancellor and Chief Executive of the University of Exeter (figure 3). He said 'As one of the leading UK and global research universities, we want to continue to build outstanding facilities for students and academics to thrive. We are building strong links regionally, nationally and internationally with major benefits for the people of Cornwall and the local economy. It is a great pleasure and honour to name this new facility in Penryn after the revered Cornish Scientist Stella Turk, who was a great friend of this University for many years.'

After his introduction he handed the floor to Nick Tregenza, a life-long friend of Stella's. He recalled his first encounters with Stella when, as an 11-year-old cycling down the hill that led to Stella's cottage he would share his latest natural history finds. He recalled the magical miniature parallel

universe – a description which will resonate with anyone fortunate enough to have visited Shang-ri La – full of books, bones and shells, all objects cherished. There would be lunch in the tiny dining room. Nick said that the effect on him as a boy was profound, his interests became more purposeful, contact with Stella was a gift to anyone who fell within her orbit. There are members of this Society who will have had similar experiences. He felt it was a fitting way to recognise Stella's nurturing role by naming the building after her.



figure 2: Stella's friends and colleagues: Tony Atkinson, Paul Gainey, Colin French, Jan Ruhrmund, Ian Bennallick, Pamela Tompsett and Tricia Burton. (photo: Sonia French)



figure 3: (left to right) Nick Tregenza, Simon Perry, Sir Steve Smith. (photo: Jan Light)

Of the many schemes and projects with which Stella became involved, Nick chose to highlight The Marine Strandings Network, which is a flag-ship project of Cornwall Wildlife Trust, and has been recording and monitoring dead marine wildlife strandings in Cornwall and the Isles of Scilly for over 25 years. In its earliest days Stella manned the phone 24/7, passing information to a network of volunteers which now numbers over 150. Nick is based at the University and ran observer programmes on local fisheries to study cetacean bycatch in his spare time. This led him into developing acoustic instruments that detect the echolocation of toothed cetaceans.

Simon Perry is Stella's nephew, a naturalist, and has recently retired to Roseland. He reminded many of us that after a short spell in New Zealand where she attended a school, she was taught in the Vicarage where she lived with her family. Others have written about the menagerie she kept at the vicarage but I had not heard before that she became temporary custodian of a monkey which

appeared on the gate post, and was reclaimed by an owner some time after. Nor had I heard about the cockroaches that infested the kitchen such that, in order to be helpful, Stella went to the woods and returned with two hedgehogs to deal with the situation!

Simon told us that the family were exceedingly proud of Stella: visiting her home was mysterious, exciting and with her library, a warm welcome and what a great listener she was. But Stella found it difficult to accept praise and the recognition she received in being awarded an MBE. With characteristic modesty she wrote one of her numerous verses:

Simon concluded his tribute by coining a verse that Stella might easily have written:

**ABSURDITY**

‘What an Absurdity, That a University,  
Should name a Building, After me!’

**ASTONISHMENT**

It can't be me, I with an MBE,  
I can't recognize, Me in this guise.  
My Stella Turk, Enjoys her work,  
And expects no award,  
As the work is reward.

There followed the cutting of the ribbon to reveal the plaque, with suitable inscription, by Stella’s nephew John Kay and her great-great niece Madeline (figure 4). After which we able to view some of the displays, (figure 5), and were treated to tea and plates of small, delicious cakes and an optional tour of the building.



figure 4: John Kay and Madeline cut the ribbon. (photo: Simon Perry)



figure 5: One of the display items. (photo: Jan Light)

**Snail-friendly gardening at RHS Flower Show in Cardiff**

*Hannah Shaw*

At the Royal Horticultural Society’s (RHS) Flower Show in Cardiff this April, the RSPB’s *Giving Nature a Home* team displayed a snail-shaped garden called Maenor Malwen (which is Welsh for Snail Manor). This snail-friendly garden showcased ideas of how to create wildlife-rich gardens and provided ideas for people to create their own snail-friendly habitats, such as placing rotting logs in a damp corner, digging a small pond, or planting a natural meadow. They also held a bug safari where children could discover and learn how to identify different species of UK land and freshwater snails and children could even create their own eco-friendly ‘snail slime’!

The Maenor Malwen team engaged with over 500 children over the course of three days and had many interesting conversations about wildlife friendly gardening with families, nature lovers and show punters. The RHS webpage can be found at:

[www.rhs.org.uk/shows-events/rhs-flower-show-cardiff/Gardens/2019/maenor-malwen](http://www.rhs.org.uk/shows-events/rhs-flower-show-cardiff/Gardens/2019/maenor-malwen)

(Text adapted from RSPB blog & RHS website. Photo: courtesy RSPB)



## 1. NATIONAL BIODIVERSITY NETWORK (NBN) SENSITIVE SPECIES POLICY

In mid-2018 the NBN requested assistance from specialist taxon groups to review their sensitive species list and to make suggestions for additions to it. The Sensitive Species Policy (SSP) aims to get a standardised, agreed method for handling sensitive species data. There is a slight dilemma here as NBN (as does the Conch Soc) wants to maximise the availability of species data to assist research, planning decision making, conservation and other land management, but afford an appropriate level of protection for species that could be harmed if detailed information about their location was freely available. There are apparent contradictions here, as just because a species is rare or even threatened it may not be at risk if its location is known; by contrast it might, in many instances, be at greater risk if a location is kept secret e.g. a potential development site. In order to assess if a species qualifies for site location restrictions under the SSP, 10 assessment criteria have been devised (to view: [//nbn.org.uk/news/nbn-draft-sensitive-species-policy%e2%80%af/](http://nbn.org.uk/news/nbn-draft-sensitive-species-policy%e2%80%af/) (accessed 4.3.2019).

The NBN's preliminary species suggestions included the Freshwater Pearl Mussel *Margaritifera margaritifera*, the marine scallops *Pecten maximus* and *Aequipecten opercularis* together with the edible oyster *Ostrea edulis* and its habitat. The Society (in particular the two census recorders) considered these suggestions and made a number of suggestions. In terms of non-marine options *M. margaritifera* was agreed and three further suggestions were made; *Helix pomatia*, *Lauria sempronii* and *Vertigo modesta*. The first two species are already ones where the Society has a policy of data confidentiality, whilst the latter two were felt to be at potential risk from open access site location availability. Reasoning concerning these four species was as follows:

***Margaritifera margaritifera*:** Has legal protection under WCA 1981 (as amended). At particular risk from multiple factors with very low population levels in England, Wales & Northern Ireland; larger but still vulnerable in Scotland. Knowledge of habitat (soft water rivers) does not easily lead to the location of *M. margaritifera* as the species is often very localised. The mussel is at risk from agricultural pollution, sedimentation, but one of the factors that can decimate a healthy, recruiting population is illegal pearl fishing and this is still causing significant losses in Scotland. A single intense bout of illegal fishing can cause long-term local damage to this long-lived, slow breeding species. Some of the healthiest remaining populations in Scotland are where precise locations have not been released.

***Helix pomatia*:** Has legal protection under WCA 1981 (as amended). Although widely distributed (in Cotswolds, Mendips, Chilterns and North Downs in particular), where the locations of some populations are known there are well-documented cases of significant damage being done in some areas due to illegal collection for gastronomic purposes. Restriction of site location of new populations may protect them from illegal collection.

***Lauria sempronii*:** This species has no legal protection in the UK and is restricted to a few ivy-covered limestone walls in one region of the Cotswolds. There are reliable recent reports of excessive shell collection at some sites

resulting in possible population depletion or loss; knowledge of the precise wall location is required as the snail is only present on a very small proportion of similar looking walls in the area.

***Vertigo modesta*:** This species has no legal protection in the UK and is currently only known from two remote, high mountain tops in the Grampians living in a very specific vegetation community (figure 1). The snail lives in very low numbers and areas of suitable habitat are very restricted, slow growing and easily damaged. Revealing exact locations could damage the populations of the snail by (1) direct collecting (requiring the collection of 'bulk samples' of vegetation for later lab processing) and/or (2) physical damage due to trampling of the slow-growing plant community.



figure 1: *Vertigo modesta* habitat: on the steep upper slopes of a Cairngorm mountain site. (photo: Richard Marriott)

The Society carefully considered the marine molluscan species options, but did not feel that any would benefit from being placed on the sensitive species list. None seemed to qualify using the 10 SSP criteria. *Pecten maximus* and *Aequipecten opercularis* are both very common and widespread species caught commercially in large quantities and so there is no need to keep locations secret. They may suffer from local over-collection but the best conservation is linked to fishery regulations. *Ostrea edulis* is much rarer, but again the location of most remaining populations are well known (many are now carefully managed and seeded with oyster spat) and subject to fishery protections. Again we couldn't see a need to place the species or its habitat on the SSP list. The final NBN sensitive species list will be finalised in 2019 and will be reported in the 2019 officer's report.

## 2. THE GULF WEDGE CLAM *RANGIA CUNEATA*: FURTHER DEVELOPMENTS

In last year's report I discussed trial sclerochronology (shell-aging using growth increments) work undertaken on *Rangia cuneata* at School of Ocean Sciences at Bangor University (MW 47: 27). In late 2018 Dr. Phil Hollyman formulated an MSc proposal to continue this work by examining and aging *Rangia* shells from different populations across Europe. This aimed at trying to more accurately assess when *Rangia* had colonised sites as distinct from when populations were discovered. In early 2019 following a successful publicity a suitable student was enrolled. The Society was able to assist by contacting colleagues across Europe who had previously

worked on the clam. As a consequence, *Rangia* shell material was obtained from Belgium, Estonia France, Germany, Russia and together with material from the UK (see also *J. Conch.* 42: 189 – 192.). Between spring and early autumn shells were successfully sectioned and aged with specimens from two areas being at least 10 years old. Following the successful completion of the MSc the results are to be written up in early 2019 with further help and support offered by the Society. Following the anticipated successful publication of the results a further summary will appear in a Society publication.

### 3. ASSISTANCE WITH EUROPEAN RESEARCH PROJECTS

#### The *Cerņuella virgata* conundrum!

In July 2018 Dr Eike Neubert (Natural History Museum Bern, Switzerland) contacted Ben Rowson to seek help in obtaining English specimens of *Cerņuella virgata* for genetic, anatomical and shell morphological studies. This request followed a three-year study by Eike and others in Tunisia which revealed that ‘*Cerņuella virgata* type-taxa’ living there actually displayed enormous radiation and consisted of many different, but as yet undescribed species. Their study then extended to compare these North African ‘*virgata*’ to material from various European mainland locations. Studies here revealed more surprises by contradicting the established hypothesis that *C. virgata* in Europe is a single polymorphic species. If suitable material could be supplied, Eike planned to use English *virgata* specimens (figure 2) (ideally from close to type localities) to genetically calibrate application of the name. The clade that includes the British specimens will then be the ‘true’ *virgata*; the other closely-related *virgata* will then be ascribed names from the approximately 60 valid options available for the various ‘forms’ of the taxon. UK material was sent by three Society members: Richard Preece (specimens from near a type location in Cambridgeshire), Ben Rowson (from Southerndown, Glamorgan) and Martin Willing (two locations: Amberley, West Sussex (figure 3) & Whiteford Burrows, Gower (figure 4) the results from studies of these may reveal whether British populations of the snail are a polymorphic single taxon or represent several closely related species. Possible future studies here might enable further Society involvement in the wider collection of *C. virgata* from across the country. At the time of writing, Eike and colleagues were undertaking analysis, with results to be published in 2019.



figure 2: *Cerņuella virgata* habitat: Chalk grassland Amberley Mount, West Sussex.



figure 3: *C. virgata* habitat: sand dunes – Whiteford Burrows, Gower, S. Wales.

#### *Mercuria* species in Iberia

In May 2018 I was contacted by a PhD student in Spain working on Hydrobiidae snails on the Iberian Peninsula (mainland Spain and Portugal). The research is based at the Museo Nacional de Ciencias Naturales ([www.mncn.csic.es/](http://www.mncn.csic.es/)) in Madrid under the direction of CSIC (Consejo Superior de Investigaciones Científicas ([www.csic.es/presentacion](http://www.csic.es/presentacion)); outcomes will feed into the national ‘Fauna Iberica XI’ project. The main focus of the work was an investigation into the complex systematic position of all Iberian *Mercuria* species, adopting a combination of molecular and anatomical studies. As well as working to unravel the entangled issue of the Iberian *Mercuria* it is intended to place the outcomes into the wider context of *Mercuria* from North Africa other European countries including the UK. I was approached because of my work on the habitats and distribution of *Mercuria similis* (formerly *Pseudamnicola confusa*) on the lower River Arun in West Sussex (figures 4 and 5). In autumn 2018 30 adult specimens were extracted from a larger sample collected from the muddy upper-tidal river banks near Arundel and sent in ethanol to Spain. The project is ongoing into 2019 and a summary of outcomes will appear in a future Conchological Society report.



figure 4: A ‘typical’ *Cerņuella virgata*. (photo: the late Derek Rands)



figure 4: *Mercuria similis* specimen from River Arun banks, Arundel, West Sussex (shell height: 3.8 mm. (photo: Paul Sterry)



figure 5: Typical *Mercuria similis* habitat, River Arun banks near Arundel, West Sussex.

#### 4. COUL LINKS – A THREATENED SAND DUNE HABITAT IN SCOTLAND

Coul Links (figure 6) consist of an extensive area of dune grasslands and dune slack wetlands forming part of the Loch Fleet Site of Special Scientific Interest (SSSI), the Dornoch Firth and Loch Fleet Special Protection Area (SPA) and a Ramsar site. The site also falls within the Dornoch Firth Important Invertebrate Area (IIA), which was recently identified in the first IIA mapping for Scotland. IIAs are nationally and internationally significant places for the conservation of invertebrates and the habitats upon which they rely. This data-led work, highlights the importance of the Dornoch Firth area for invertebrate conservation in the UK.



figure 6: Coul Links – aerial view of this threatened sand dune site. (photo: Craig Allardyce)

Many conservation organisations were alarmed to discover that this planning application had been submitted: *'Highland Council Planning Application: 17/04601/FUL Development of 18-hole golf course, erection of clubhouse, renovation of existing buildings for maintenance facility, pro-shop, caddy hut, workshop, administration building, information booth, formation of new private access from C1026'*. There was even more surprise and concern when it was discovered that, in early summer 2018, the Highland Council had granted planning permission for the venture. This was done despite being provided with overwhelming evidence from numerous environmental and ecological organisations that development of the site would lead to the extensive degradation to a nationally important area. There was surprise that the scheme had passed in the absence of an independent environmental impact assessment. Insufficient information is currently available for an informed decision to be made. Following this news, a campaign was launched (chiefly led the Scottish Wildlife Trust, RSPB, Buglife and Plantlife Scotland) to persuade the Scottish Government to

'call in' the application for further scrutiny and to allow additional ecological investigations of the site. It was suggested that Scottish Government's support for the project might imply an apparent disregard of the numerous well-respected protective designations (e.g. SSSI, SPA & Ramsar protections) applying to this site. The Conchological Society was made aware of this issue in late July 2018 and with little time ahead of a deadline, submitted a short letter together with numerous others sent to the Scottish Government, requesting 'call in' of the application. It was therefore with considerable (possibly short term!) relief that, in late August 2018, the Scottish Government responded positively to the representations and called in the application for ministerial scrutiny. For summary details visit: [www.bbc.co.uk/news/uk-scotland-highlands-islands-45295948](http://www.bbc.co.uk/news/uk-scotland-highlands-islands-45295948). It is understood that a public inquiry will be held in early 2019; outcomes will be reported in Mollusc World in 2019.

For additional current and historical Coul Links information also visit:

[www.buglife.org.uk/search?combine\\_2=Coul+Links](http://www.buglife.org.uk/search?combine_2=Coul+Links) and [www.rspb.org.uk/our-work/our-positions-and-casework/casework/cases/coul-links/](http://www.rspb.org.uk/our-work/our-positions-and-casework/casework/cases/coul-links/).

#### 5. IMPORTANT MOLLUSC COLLECTIONS SAVED

##### The Ed Bishop Collection

In the spring of 2018 came the sad news of the death of Dr. E. O. Bishop. Ed had been a Society member since he joined as a junior member in 1951; a membership of 67 years is a noteworthy achievement! He was a Reader in molecular sciences at Sussex University and held a lifelong passion for shell collecting. In early May 2018 I received a telephone call from Ed's wife Anne to ask if I could advise on the disposal of his collection. I duly visited her home near Brighton shortly afterwards to review the situation. Not having seen the collection previously I was taken aback by its size, variety and quality (figures 7 and 8).



figure 8: A drawer of Camaenid land snails from the Ed Bishop collection.

Shells occupied 28 multi-drawer filing cabinets and about 100 additional boxes, each equivalent to a filing drawer; material was spread over three rooms, taking a good proportion of two. In the time available I assessed that the collection had worldwide content, but with a predominance of both European non-marine and marine specimens. Sampling throughout demonstrated that virtually all specimens were well-labelled with sound provenance. A good proportion and probably the most scientifically valuable parts, were self-collected but material obtained from purchases, exchange, residues of other valuable collections (e.g. a part of A. Blok's extensive work) was also present. The material included very good European non-marine and marine including from the UK, southern Italy, Crete, Majorca, Sardinia, Sicily, the Azores, the Canary Islands. Further afield Ed had collected in Cuba, Barbados and possibly India and Sri Lanka. Another valuable feature of the collection, particularly in relation to own-collected European material, was the large number of specimens of many species which is a feature of particular value in assessing shell morphological variability within a population. Finally, locality data for much of the UK material also provided the opportunity to study valuable historic distributional data for species such as *Helicella itala* now lost from many sites.



figure 7: A drawer of Cerionid land snails from the Ed Bishop collection.

Following discussions with her children, Anne decided that any parts of the collection judged to be of value by a museum should be gifted to them for future safekeeping and study. I approached Ben Rowson at the National Museum of Wales describing my impressions of this extensive resource. Initially my approaches were treated with justifiable caution, Ben stating that, 'From what we have heard...it appears the collection is of very good quality but is evidently very large. An estimate of the approximate number of lots based on the number of cabinets and boxes you supplied suggests there could be 26,000 lots in total...this would still be one of the largest Mollusca collections we have been offered in recent years. ... Were we to take a collection of this size, the impact in terms of staff time available for curation and on storage capacity would be substantial'. Initially it therefore seemed that Cardiff might be prepared to accept a small proportion

of the collection, chiefly those components with a Welsh provenance. A NMW visit to view the collection by Ben and Harriett Wood in autumn 2018 led, however, to a welcome change of position. They were so favourably impressed that instead of only accepting a small proportion decided instead to accept everything! Plans were made to transport the collection for safekeeping in Cardiff in early 2019, a fitting tribute to Ed's lifetime dedication to conchology. It is hoped that a more detailed description of the Bishop Collection will appear in *Mollusc World* later in 2019. It only remains for me to end this happy saga with thanks to Anne Bishop and her family for their far-sighted generosity.

### The Barry Colville Collection

In 2017 past Conchological Society President Dr. Barry Colville (figure 8) decided to donate his UK and European non-marine terrestrial mollusc collection to a suitable museum for safekeeping and study. When more mobile, Barry was a field-work pioneer with a special interest in locating populations of rare and elusive *Vertigo* spp. (noteworthy early publications include: Coles & Colville 1979 & Coles & Colville 1980) Barry was especially skilled in investigating limestone 'flush' sites, initially in the Pennines and then later further north on Deeside and in the Cairngorms where he discovered new sites for species such as *Vertigo geyeri*, *V. genesii* and *Quickella arenaria*. He also did important work in North Wales, locating new populations of *V. geyeri* and *V. moulinsiana* there. Fortunately, Barry's historically and scientifically valuable collections have found excellent new homes with his

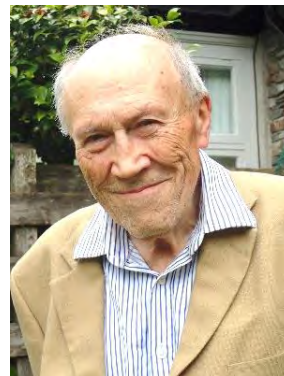


figure 8: A recent photograph of Barry Colville in Ambleside.

Scottish material appropriately moving to the National Museum of Scotland in Edinburgh and with all of the Welsh, English and some of the continental European material joining the Bishop collection in the capable hands of the National Museum of Wales.

### 6. FRESHWATER GASTROPOD IDENTIFICATION

I wrote in my last report about the possibility of a HLF supported bid to produce a freshwater gastropod identification guide. Since then things have moved on considerably and following a successful HLF award in mid-2018. 'Brought to the Surface: a new beginning for freshwater snail identification' was launched in the autumn of 2018 (MW 48: 3). The first steering group meeting was held at The National Museum of Wales in November 2018. At the end of the year applications for the post of Project Officer were being sought.

As part of the project the Conchological Society formerly transferred the extensive and very high quality Derek Rands 35mm colour slide archive to the museum for safekeeping. The transfer included a total of about 4000 slides including up to 500 slides of fresh and brackish water taxa, many of which will be scanned for possible use in the project. Storage at the NMW will allow the Society full use of this valuable resource.

## 7. HELPING OTHER ORGANISATIONS

### *Vertigo moulinsiana* at Burton Mill Pond

In my 2016 Conservation Officer Report (MW 45: 27) I wrote about conservation work at Burton Mill Pond the most important population stronghold for *Vertigo moulinsiana* in Sussex. The pond is managed by West Sussex County Council and it is their intention to improve the pond margins by reducing encroaching shade to enhance the zone for a range of rare animals such as *V. moulinsiana* but also the very rare cowbane *Ciruta virosa*. As a volunteer member of the Burton Mill Pond Project Board I spent a day in a boat on the pond in June 2018 with the site manager assessing the entire perimeter to plan future management options to improve conditions for the snail.

### Help in Scotland

In autumn 2018 the Society was asked to support Joanna Lindsay, a Conservation Volunteer working at Buglife Scotland. Jo was working to produce 'A Beginners Guide to Freshwater Snails of Central Scotland'. Jo had drafted a leaflet intended to be simple to use and aimed for use by beginners, families, school groups, community groups etc. Adrian Sumner played a very important role in acting for the Society to assist Jo in advising on content and editing. The leaflet was finally published in late 2018 with support from the Society as well as Buglife, The National Museums of Scotland and the Esmée Fairbairn Foundation. [An online version is available at [www.buglife.org.uk/sites/default/files/Snail%20Guide%20A5-for%20web.pdf](http://www.buglife.org.uk/sites/default/files/Snail%20Guide%20A5-for%20web.pdf). (April 2019) Ed.]

## 8. SOCIETY PROJECTS & PROJECT PARTICIPATION (CURRENT & FUTURE)

### Surveys at High Park, Blenheim

In 2017 a project was initiated by Aljos Farjon (Honorary Research Associate, Royal Botanic Gardens, Kew) in High Park, Blenheim (home to the greatest collection of medieval oak trees in Europe) (figure 9), to carry out the first detailed multi-disciplinary assessment of the park's natural history and wildlife. With the consent of the Blenheim Estate, Rosemary Hill, has organised several visits on behalf of the Conchological Society, surveying together with 'team members' Peter Topley, Tom Walker and Rosemary Winnall. A detailed picture of the molluscan fauna is being recorded; surveys are currently ongoing.



figure 9: Surveying for molluscs in High Park, Blenheim, 2017.  
(photo: Peter Topley)

### The Knepp Estate

The Society has already forged links with the Knepp Estate including the running of a field meeting in October 2017 (MW 48: 18 – 21). There are plans to continue these links with:

1. Further surveys of the estate to get a complete picture of its molluscan populations. A second field meeting is planned for early October 2019.
2. More specific monitoring of selected areas to study successional changes as areas are 'rewilded' from former arable fields to a mix of dynamically changing secondary habitats.
3. Discussions are underway with the estate to initiate a mud snail (*Omphiscola glabra*) introduction programme. Historically the species has been recorded close to Knepp in temporary pools in the Low Weald but populations of the snail are believed to have declined here as in much of southern England. *O. glabra* reintroductions have successfully been undertaken elsewhere (MW 45: 15), sometime with 'award-winning' success! See [www.buglife.org.uk/news-and-events/news/%E2%80%98marvellous-mud-snails%E2%80%99-a-buglife-project-wins-national-lottery-support-to-help](http://www.buglife.org.uk/news-and-events/news/%E2%80%98marvellous-mud-snails%E2%80%99-a-buglife-project-wins-national-lottery-support-to-help)

### Medmerry

The Medmerry managed coastal retreat area (lying between East Wittering and Selsey in West Sussex) offers an opportunity for long-term Conchological Society involvement. A baseline marine molluscan survey was undertaken in autumn 2018 [and is also the subject of the talk given at the April 2019 AGM]. It is hoped that in collaboration with the RSPB regular Society meetings will allow successional changes to be studied as this dynamic habitat develops over the years.



figure 10: Looking west across the Medmerry breach (near Selsey, West Sussex).

### Exotic Mollusca living in zoological garden sites

In his role as Mollusc Recorder for the Bedfordshire Natural History Society (BNHS) Peter Topley, together with others including Dave Guntrip, Alan Outen and Mark Telfer, have been involved in recording molluscs from synanthropic sites at the ZSL Whipsnade Zoo. Recent records from the Butterfly House have included the Streptaxid *Streptostele musaecola* (Morelet, 1860) (figure 11), the Sicilian slug *Deroceras panormitanum* (Lessona & Pollonera, 1882) s. str. (figure 12) and at least two other, still unidentified, species. Further recording is continuing on an occasional



basis throughout the grounds. A similar project is also planned at ZSL London Zoo, organised through Paul Pearce-Kelly (Senior Curator of Invertebrates, Lower Vertebrates and Research at ZSL) with some promising initial records already obtained.



figure 11: *Streptostele musaecola*, Whipsnade butterfly house (shell length c. 6 mm). (photo: Alan Outen)



figure 12: *Deroceras panormitanum* ss., Whipsnade butterfly house (length c. 30 mm). (photo: Alan Outen)

### ***Ena montana* – what’s happening to this snail?**

Several other projects are currently in the development phase, one of which, a suggestion by Keith Alexander, concerns the Mountain Bulin, *Ena montana*. This snail has a scattered distribution across southern England with a fragmented distribution running from the Mendips to east Suffolk with a stronghold in the Cotswolds and a cluster of populations on the South Downs and Chilterns. *E. montana* is mostly found living in old deciduous woodland but, can occur in hedgerows and even roadside ditches. The most recent British non-marine molluscan status review (Seddon *et al.* 2014) assesses the snail as ‘Near Threatened’ and notes ...’ believed to be in slow decline with changes in land management...close to meeting the criteria for ‘Vulnerable’.’ The continued presence of the snail at many historic sites has not been confirmed for many years. A study of the current status of this species would make an ideal and valuable Society conservation project. If this gets underway it will also establish the current existence at many sites but may also allow studies of the ecology of this rather elusive snail.

### **9. BRITISH WILDLIFE**

Three molluscan ‘Wildlife Reports’ were published during 2018 (*British Wildlife* 29(3): 216–218; 29(5): 372–374 and 30(1): 58–60). 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*.

### **10. FURTHER eDNA WORK WITH *ANISUS VORTICULUS***

Work on this project was initially described in earlier reports (MW 45: 25–26; 47: 28). Work continued in 2018 with the field eDNA water testing of samples taken from Hooe Levels (Pevensey) ditches selected using 2018 surveys results. The outcomes of the tests are ongoing into 2019 and a summary of results will appear in a future *Mollusc World*.

### **11. ASSOCIATIONS WITH OTHER ORGANISATIONS**

The Conchological Society has active associations with many other conservation organisations.

The main ones are **Buglife**, **Invertebrate Link\*** (to which an annual report was sent in November 2018 consisting of an amalgamation of the two census recorders’ reports and that of the Conservation Officer), and the **Wildlife Trusts** (by way of membership of the Conservation Committee of the Sussex Wildlife Trust). In relation to the Trust’s Biological Records Centre I include an annual report to *Adastra*, the annual review of wildlife recording in the county ([www.sxbrc.org.uk](http://www.sxbrc.org.uk)). For 2018 this included news of (1) the discovery of *Cipangopaludina chinensis* (Gray, 1833), an invasive new to the UK found in a Sussex ditch, (2) publicity for the ‘*Brought to the Surface ... a new beginning to freshwater snail identification*’, (3) awareness raising for Asian Date Mussel *Arcuatula senhousia*, (4) the possible presence of *Hydrobia acuta neglecta*, (5) mention of the Medmerry marine molluscan survey and (6) updates on *Anisus vorticulus* surveys in the County and progress on the eDNA initiative.

Additionally, the Conservation Officer is a member of the Arun & Rother Rivers Trust (ARRT); this provides numerous opportunities to become involved in river catchment discussions where molluscan assessments and conservation issues are of relevance.

\* Invertebrate Link: further information @ [www.royensoc.co.uk/invertebrate-links/](http://www.royensoc.co.uk/invertebrate-links/)

### **Acknowledgement**

In 2018 fellow Council member Mags Cousins generously accepted a role as Conservation Officer ‘support colleague’; I thank her for her interest in the Society’s conservation work and for her help and support.

### **References:**

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# A Quick introduction to a prominent malacologist of the 20<sup>th</sup> Century

Jordan P. Cuff and Ben Rowson *National Museum of Wales, Cardiff*

Given their notoriety for a lack of speed, there is some irony in the name of one of the leading authorities of British molluscs in the 20th Century being Hamilton Quick.

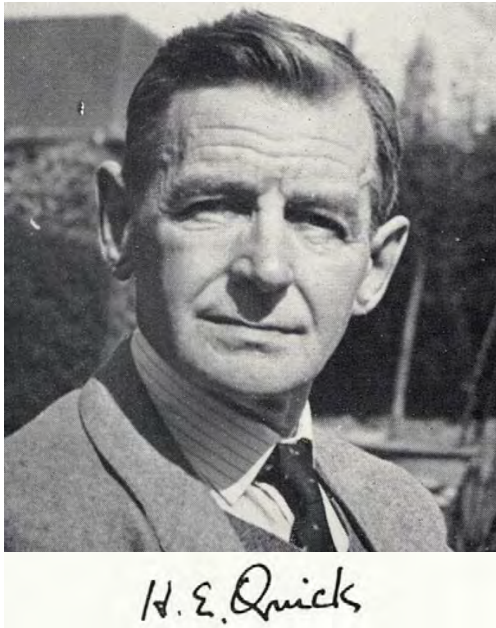


figure 1: H.E. Quick (1882–1967), photo and signature. (*Journal of Conchology* 26, plate 12 (1968))

Hamilton Ernest Quick (figure 1) trained and worked as an ophthalmic surgeon, but always had an eye for molluscs. Growing up and working in Swansea, Quick built an extensive collection of molluscs, both terrestrial and aquatic, from South Wales and beyond. Quick was president of the Conchological Society from 1941 to 1942 and of the Malacological Society of London from 1950 to 1953. Much of Quick's non-marine collection was acquired by the National Museum of Wales, Cardiff (NMW) in 2013 from Juniper Hall Field Studies Centre, where Quick regularly held meetings and workshops on natural history. During a three-month placement at NMW I had the pleasure of sorting through this fantastic collection.

My first impression of Quick's collection was that it was certainly vast, spanning many shelves and boxes. Quick collected molluscs from the age of 19 right through to his late seventies, comprising material from near his homes in Swansea and Reading, but also from many adventures afar, including specimens from Australia, where he was born. The collection covers much of the globe, comprising specimens from 37 countries across five continents, mostly collected himself, but also by many prominent malacologists of the time including J. R. le B. Tomlin, J. Davy Dean, A.E. Boycott and B. C. Cotton.

Despite the exotic contingent of the collection, this collection mostly contained material from his home city of Swansea and nearby sites of natural beauty, particularly the Gower Peninsula (figure 2). There are, however, further scatterings of his collection, such as the many specimens

housed in Cole Museum, Reading, although these are mostly exotic species with most of the British material seemingly present in Cardiff. Most of the slug material used for his 1960 monograph on the British Slugs is at the Natural History Museum, London, though the Cardiff collection includes a number of slug plates and shells.



figure 2: Oxwich Bay in the Gower Peninsula, where many of Quick's specimens were collected.

Apart from the slugs, Quick's greatest passion within molluscs were the Succineidae in which a genus has even been named in his honour (*Quickella* Boettger, 1939). Quick's collection comprises all five recognised British Succineidae species, alongside exotic species from abroad such as *Succinea avara* (USA), *S. concisa* (Sierra Leone), *S. fagotiana* (Germany), *S. groenlandica* (Iceland) and *Oxyloma patentissima* (Sub-Saharan Africa).

Among the beautifully-preserved specimens of many common species are various British rarities, including *Oxyloma sarsii*, *Quickella arenaria*, *Succinella oblonga*, *Vertigo lilljeborgi*, and *Truncatellina callicratis*. There are, however, several species absent from Quick's collection. Of terrestrial species, these include several *Vertigo* spp. (*V. genesii*, *V. moulinsiana*, *V. geyeri*, *V. modesta*), *Columella aspera*, *Myosotella denticulata*, *Lauria sempronii*, *Paralaoma servilis*, *Lucilla singleyana*, *Vitrea subrimata*, *Balea heydeni*, *Papillifera bidens* and *Helicigona lapicida*, some of which are recent additions to the British checklist.

Of the British freshwater species, fewer are omitted from Quick's collection. Represented almost entirely by rarities and recently-introduced species; these include: *Myxas glutinosa*, *Ferrissia wautieri*, *Menetus dilatatus* and *Gyraulus acronicus*. The last is the only surprise given that it is the Thames Ramshorn, known to populate its titular river in Reading, where Quick once lived.

As is often the case with natural history collections, the boxes and tubes contained not only an invaluable congregation of the natural world, but also insights into the life of one of the most influential malacologists of the 20<sup>th</sup> Century (figure 3).

Used to cushion the shells of a bivalve, Quick even included in his collection a torn-up letter from the British-Soviet Friendship Society\*, of which he was seemingly a member (figure 4). Quick's collection was also punctuated by many strange assorted boxes and tins, including many from foodstuffs of his time, like 'Valentine's Meat Juice'.



figure 3: An example of the variety of boxes that comprised Quick's collection.

Given Quick's prominence in malacology and the impressive nature of his collection, it was truly an honour to not only inspect, but curate his impressive collection. On the shelves of NMW it will continue to provide a useful resource for malacology more broadly. Several specimens have, in fact, already been used in a public display and the current development and testing of a new guide to the freshwater snails of Britain and Ireland. Long after his passing, Quick continues to benefit the malacological world through the wide-ranging collection that he built throughout his life.

\* 'In Britain during the inter-war period, communist groups such as the 'British-Soviet Friendship Society'...established in 1927, were actively promoting cultural exchanges between Britain and the USSR...The British-Soviet Friendship Society, which tried to attract supporters from a wider base, mainly from the working class, had a membership of about 12,000 individuals along with some 50,000 affiliated members in 1954.' (From a description of 'Papers relating to the British Soviet Friendship Society visit to USSR, 1952-1992. Hull University Archives, Hull History Centre. GB 50 U DX347' on the Archives Hub website, [https://archiveshub.jisc.ac.uk/data/gb50-udx347], (accessed 09/05/2019)). [Ed.]

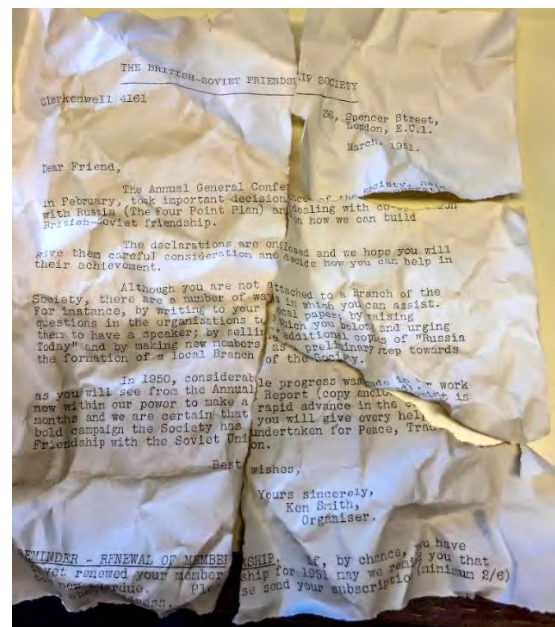


figure 4: Quick's torn correspondence from the British-Soviet Friendship Society (dated March 1951).

## British Shell Collectors' Club

Saturday 26<sup>th</sup> October 2019

### Shell Show

Members are encouraged to create display tables for competitions in various categories (e.g. One Species, British Marine, Caribbean, or specialities such as shell art or shell postage stamps). Displays can feature marine, land and freshwater species. Five major prizes are awarded. A number of dealers offer for sale shells to suit the budgets of both beginners and experts.



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](http://www.britishshellclub.org)

## Membership update

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 on page 35).

### Change of address



The  
Conchological  
Society  
of Great Britain & Ireland

New e mail address - correction (see MW issue 49 p. 21)

With a bit more time on my hands after early retirement from a career in teaching and Local Government administration, I decided to rekindle my youthful interest in marine biology (and especially molluscs) through joining some relevant Societies and also by volunteering at Buxton Museum which needed some ‘curatorial assistance’ – sorting out a shell collection. Of the groups I joined, one was the Conchological Society and another was the Yorkshire Naturalists’ Union. With both of these I managed to fit in some beach surveying (figure 1), albeit I found the time available for such activities in retirement was nowhere near as plentiful as I had originally imagined!



figure 1: A closer look, at Robin Hood’s Bay, 2011.  
(photo: Penny Goodwin)

Then, in October 2017, I was involved in a serious road traffic accident that stopped or restricted many of my activities. After a fairly lengthy period of recuperation, I was left looking for a way of contributing which preferably didn’t involve lengthy car journeys – a marine biologist living in Derbyshire doesn’t really have easy access to marine sites! Coincidentally, about that time I paid a visit to the West Yorkshire Archive Service to do some research on the Conchological Society archives and saw some of the large amounts of paper record cards we hold, (figure 2) so when I heard Simon Taylor (Marine Recorder) was looking for some help in digitising paper records of marine surveys it seemed like a good match with my interests and, I hoped, my capabilities.



figure 2: A box of Marine Census cards, from the CSGBI archive at the West Yorkshire Archive Service, Leeds.

Having contacted Simon, and offered my services, we soon developed a process that went something like this:

Simon sent two documents – an Excel Spreadsheet (download template) on which to enter records, together with a batch of about 10 or so scans of ‘paper’ record cards

for various ‘surveyed sites’. Simon also sent the ‘rules’ for entering data so that the computerised records could be smoothly transferred to Recorder 6. I then proceeded to test these ‘rules’, and found a number of ways of entering data incorrectly! Gradually we went back and forth correcting my misunderstandings and I formulated a ‘crib sheet’ that enabled me to interpret the record cards, enter data in an appropriate way, and to maintain a consistent approach with the minimum of errors. The crib sheet has proved very useful in reminding me of the basic rules of uploading data, especially where there has been a break of any time between uploading sessions, and I am happy for others to borrow it and amend for their personal use.

It may be helpful to describe the exact way I do this - which is not the only way, but which seems to work for me:

- I start by transferring the batch of scans to the desktop of my Apple Mac. This involves dragging the file from Simon’s email to my desktop and opening it using ‘Preview’. I then prepare it for data input by rotating pages to the correct orientation, where needed, and zooming in or out to obtain a magnification easy on the eye.
- I then add a blank copy of the upload template to another part of the desktop, and ‘save’ it – I number each batch sequentially so the files are called “BJG 1, BJG 2,” etc.
- Finally, I add to the desktop a master list of species, from which I am able to copy and paste. This avoids having to type each species in afresh for every site, which I find saves time and also avoids typos. It is worth mentioning here that species names may have changed over time - *Patina pellucida* – *Helcion pellucida* – *Patella pellucida*, for example - but Recorder 6 can cope with any synonyms.

Another essential way of saving time is to make an initial count of the number of species for a particular site and to use ‘copy and paste’ for all the common fields for that site – usually ‘Site Name’, ‘Date’, ‘Grid Reference’, ‘All Comments’, ‘Recorder(s)’, and, where necessary, ‘Determined’ [by].

As an example, my desktop might look something like that in figure 3 on the next page.

This shows the paper record card for a site SW of Culver Cliff (Isle of Wight) on the left, the upload template (partially completed) at bottom right, with my version of a master list of (gastropod) species at top right. When I have finished each site I do a manual count of species on the record card and make sure it matches the number of entries on the saved upload template (‘BJG 1’, or whatever). When all the sites on a particular scan are completed I email the file to Simon, together with any issues that might need checking.

Great expertise and advanced computer skills are not required, just basic familiarity with spreadsheets, together with a decent amount of care and patience, and some time. I find that it is relatively easy to do a 10-minute session or to extend it to an hour or more – it can become hard to ‘put down’ when you get into a rhythm! You don’t even really need any knowledge of marine species.

Finally, it would be great if a few others were willing to ‘join the club’, otherwise I will still be typing away into my dotage!!

JLI

LOCALITY SW of Culver Cliff 50°38.2'N 1°06.7'W		MARINE MOLLUSCA 44-49	
HABITAT Stiff mud with live maerl & shell fragments		Recorder's Name Jan Light (Grab Sample)	Marine Census Area W1941
		Depth (m)	Code No.

	A	B
1		
2	Acilis ascaris	✓
3	Acilis minor	✓
4	Acmaea testudinalis	Testudinalia testudina
5	Acmaea virginea	Tectura virginea
6	Alvania beanii	✓
7	Alvania cancellata	✓
8	Alvania carinata	✓
9	Alvania cimicoides	✓
10	Alvania crassa	Manzonina crassa
11	Alvania punctura	✓
12	Alvania semistriata	Crisilla semistriata
13	Alvania zetlandica	✓
14	Amauropsis islandica	✓
15	Ammonicera rota	✓
16	Aporrhais pespelicani	✓
17	Aporrhais serresianus	✓
18	Balcis alba	Melanella alba
19	Balcis devians	Curveulima devians
20	Balcis lubrica	Melanella lubrica
21	Barleecia unifasciata	✓

<b>LORICATA 440</b>	3005 Colus jeffreysianus	7304 Rissoa illicina agg	4001 Eubranchus cingula
101 Acanthochiton com	3101 Crepidula fornica	7305 membranacea agg	4002
102 crinitus	3301 Diodora apertura	7306 parva agg	4003
103 gracilis	3401 Emarginula conica	7307	4004
201 Callochiton achati	3402 crassa	7401 Rissoella diaphana	4005
301 Hanleya hanleyi	3403 reticulata	7403	4006
401 Ischnochiton albus	3601 Erato voluta	7501 Scissurella crispa	4102 Eulimella
501 Lepidochitona cine	3701 Eulima glabra	7601 Simnea patula	4103
601 Lepidopleurus asel	3703 trifasciata	7701 Skenea cutleriana	4104
602 cancellatus	4001 Gibbula cineraria	7703	4105
603 scabridus	4002 magus	7704	4202 Facelina
701 Tonicella marmorea	4004 tumida	7801 Skeneopsis planorb	4205
702 rubra	4005 umbilicalis	8102 Tornus subaerimac	4301 Favorinus branchia
	4101 Graphis albida	8201 Trichotropis borea	4601 Goniodoris castane
	4201 Haedropleura septa	8301 Tricolia pulla	4602
<b>SOLENOGASTRES 450</b>	4301 Haliotis tubercula	8401 Triphora perversa	4702 Haminocia navicula
101 Chaetoderma nitidu	4402 Hydrobia ulvae	8501 Trivia arctica	5001 Hermocia bifida
201 Nematomeni banyul	4403 ventrosa	8502	5002
301 Neomenia carinata	4501 Janthina exigua	8601 Trophon barvicensu	5101 Hero formosa
401 Proconomeni aglasp	4502 janthina	8602 muricatus	5201 Janolus cristatus
	4503 pallida	8603 truncatus	5203
	4601 Lacuna crassior	8701 Trochelia bernici	5301 Jorunna tomentosa
	4602 pallidula	8801 Truncatella subcyl	5401 Laona pruinosa
	4603 parva	8901 Turritella communi	5501 Limacia clavigera

	A	B	C	D	E	F	G	H
	1	Species	Site Name	(dd/mm/yy)	Grid ref or lat long	Shell?/dance	All Comments	Recorder
	2	Alvania crassa	SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	3	Bittium reticulatum	SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	4	Diodora apertura	SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	5	Rissoa parva	SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	6		SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	7		SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	8		SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	9		SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light
	10		SW of Culver Cliff	28/06/88	50.636667N 1.111667W	C	Stiff mud with live maerl and shell frag	Jan Light

figure 3

## Shell grotto in the Yorkshire Sculpture Park

Rosie Dansey

On the May Day holiday this year Paul and I visited the fascinating Yorkshire sculpture park, an open-air gallery in West Bretton, near Wakefield. It shows work by international and British artists including Henry Moore and Barbara Hepworth. As we walked round the lake, we discovered a hidden gem, the shell grotto. It is a cave-like feature said to resemble something out of a Tolkien film with its overgrown ivy and seashell lining. It is in the eighteenth-century tradition of creating follies but the shell work is amazing.

An information board at the grotto reads: 'Sir William Wentworth (1687-1763) went on the Grand Tour between 1709 and 1712, a few years after inheriting the estate, and the shell grotto reflects the fashion in the 18<sup>th</sup> and 19<sup>th</sup> centuries to create follies as romanticised spaces in the landscape.'

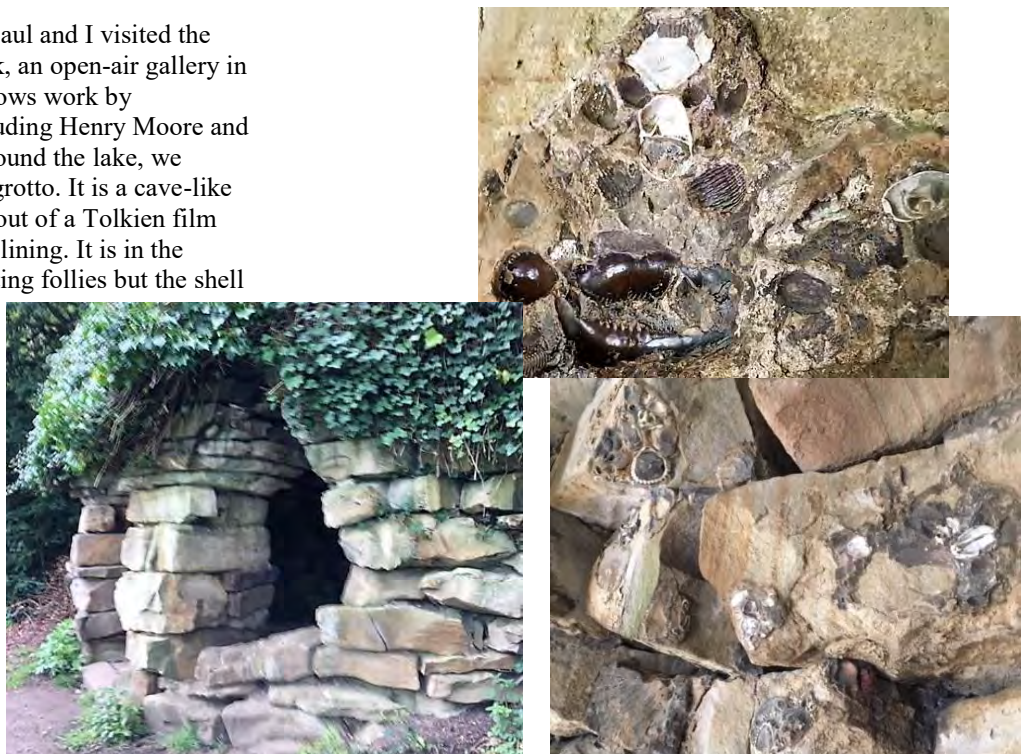




figure 1: *Malacolimax tenellus*. Wyre Forest 2018 (above) and 2010 (below) on *Cortinarius violaceus*.  
(photos: Rosemary Winnall)

While the Slender Slug (*Malacolimax tenellus*) has been known from the Wyre Forest for many years (figure 1), systematic surveying of the extent of the species in the forest only began in 2008. This is not an easy species to find as it lives on fungal hyphae underground, emerging when the fruiting bodies form in the autumn. The timing of field meetings for this species can be difficult, and while the occasional juvenile can be found as early as June, and individuals can survive into December in mild winters, the best chance of success is usually in October.

Three Conchological Society members met up with the Wyre Forest Study Group on 13<sup>th</sup> October 2018 at Hawkbatch to examine sites in the Shropshire area of the forest. Seckley Ravine was a particular target, aiming to work our way in from the top, to examine the wet flushes there (figure 2). These flushes are more nutrient rich and have a higher number of mollusc species than more acid areas. Ash trees and a rocky area were exposed here. Some of the party stayed at the top of the ravine and searched there so as to reduce the risk of trampling damage. Several samples of leaf litter were taken and Tom Walker tried sampling the site with a cordless car vacuum. In an earlier visit to the ravine, a group had worked its way up from the bottom, but the stream and a lot of loose debris and fallen trees made access very difficult.

In the current survey, *M. tenellus* was found both in open rocky woodland within the ravine in a wet flush overhung by a yew tree and other notable species

included the Ash-black Slug *Limax cinereoniger*, the Point Snail *Acicula fusca* and the Land Caddis *Enoicyla pusilla* (Trichoptera). The most productive area was a wet flush under a Yew tree where the deer had grazed off the vegetation. A total of 25 mollusc species were found in the ravine, which is high for the area. The group remaining at the top of the ravine was also successful in finding *M. tenellus*. Other areas examined in Hawkbatch were more acid and less productive and no more *M. tenellus* were found. Possibly the summer drought had delayed their emergence (and that of the soil-based fungi fruiting bodies that provide their food source) in the drier parts of the forest where they have been recorded previously.



figure 2: Field meeting attendees in Seckley Ravine, Wyre Forest, 2018.

The map (figure 3) shows that *M. tenellus* has been found so far in all the forest compartments it has been sought in, indicating that Wyre Forest is a stronghold for the species, but in this large and complex area, there are always other parts to investigate, notably outlying parts of the forest and western areas, some of which would require permission as they are on private land. *M. tenellus* is known to be restricted to ancient semi-natural woodland, but it can still be found in partially replanted woods and tolerates coppicing and pollarding. Disturbance of the roots and fungal mycelium may be of greater importance to this species than temporary removal of the tree canopy, provided the environment remains sufficiently humid. Woodland edge habitats may be less favourable and it will be interesting to see if this applies to the edge compartments of the Wyre Forest in future surveys.

I would like to thank Rosemary Winnall for obtaining permission to visit the sites and everyone who attended this meeting and provided records previously. Graham Hill kindly produced the up-to-date version of the accompanying map. A version of this article will appear in the *Wyre Forest Study Group Review*.

**Lemon Slug  
*Malacolimax  
tenellus*  
in the  
Wyre Forest  
(to 10 02 2019)**

**Legend**

*Malacolimax tenellus*

Contains Ordnance Survey data © Crown copyright and database right 2013, and © Wyre Forest Study Group data, 2018

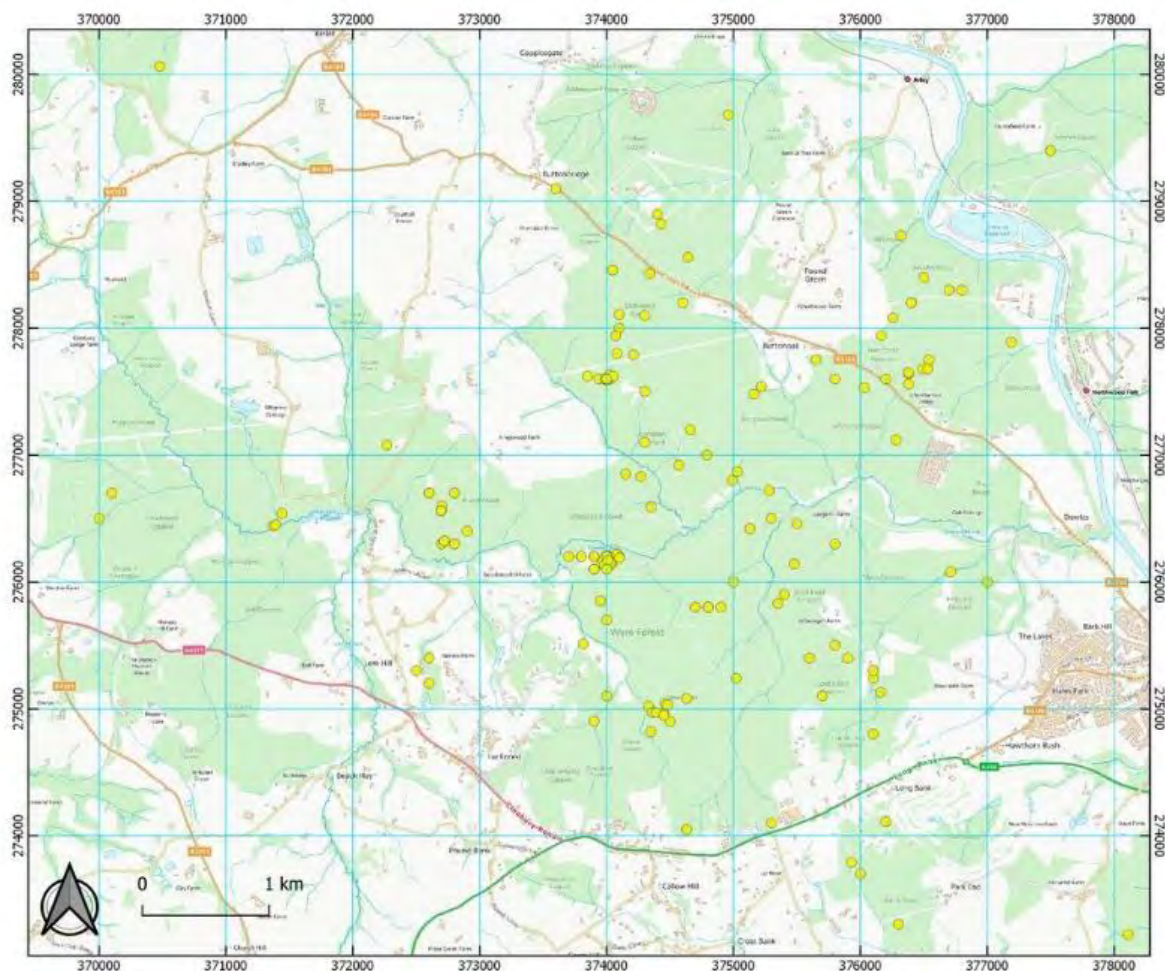


figure 3: Map showing distribution of records of *M. tenellus* in Wyre Forest. (courtesy of the Wyre Forest Study Group)

## Marine non-native molluscs of the Isle of Wight

*Adrian Brokenshire*

After reading the communication in the Journal of Conchology (Barfield et al., 2018) about the discovery of the Asian date mussel (*Arcuatula senhousia* (Benson, 1842)) at sites on the mainland coast of the Solent, I was surprised to see this species for sale on the stall of a UK shell dealer at the British Shell Collector's Club shell show on October 27<sup>th</sup> 2018.

At first I assumed they were from the same place as mentioned in the Journal, but not so; these were collected in early summer from shores of the Cowes area of the Isle of Wight, where they were not infrequent. The dealer said he had been back in late summer to find more but could find none. He could find no reason for their sudden loss.<sup>1</sup>

I wonder if both sites are somehow connected or whether they have been seeded by different means or times, or are they capable of migration to and for across the Solent? This is possibly worth some further or future investigation.

Several non-native species seem to be able to manage the crossing as I have found *Mercenaria mercenaria* (shells only) near Yarmouth, Norton Spit, Sconce Point and Cliff End. *Ruditapes philippinarum* is frequent along the south coast of the Isle of Wight, particularly on the shores of Gurnard Bay where often found fresh dead, along with another 'foreigner' *Crassostrea virginica*. The last time I

saw and collected the latter at Eling Hythe on Southampton Water and so another that seems to have no difficulty with the migration across the Solent.

I have noted that with short reports in the 'Journal' there is often little in the way of follow-up information no matter how important up to date information might be! Often new records seem to be quickly relegated to the past, creating a knowledge void. Surely the Journal of Conchology and Mollusc World lend themselves to being more informative and platforms for more up to date information and continued debate!<sup>2</sup>

### Reference

Barfield P., Holmes A., Watson G., Rowe G. (2018) First evidence of *Arcuatula senhousia* (Benson, 1842), the Asian date mussel in UK waters. *Journal of Conchology* 43(2):217–222.

<sup>1</sup> I obtained more specimens of *A. senhousia* from the same dealer at the BSCC Show on 27<sup>th</sup> April 2019, but this time they were from Hamble, on the Solent, Hants. It would seem that this species is rapidly finding suitable habitats in the area of the Solent and becoming more frequent in good numbers.

<sup>2</sup> Species updates are often given in reports from the Hon. Marine and Non-Marine Recorders, but contributions in such areas are always encouraged and welcomed by the Editor of this magazine. Ed.]

# EUROMAL 2017: The 8<sup>th</sup> Congress of the European Malacological Societies

Martin Willing



figure 1: Wawel Castle, Kraków, Poland.

Euromal 2017 took place in Kraków, Poland (figure 1) from 10<sup>th</sup>–14<sup>th</sup> September 2017 (the 7<sup>th</sup> Euromal was held in Cambridge in September 2014; see MW 36: 10–13). The Congress was hosted by the Association of Polish Malacologists (Stowarzyszenie Malakologów Polskich) together with co-organisers The Institute of Nature Conservation, Polish Academy of Sciences. The conference was also sponsored by the Malacological Society of London and Carl Zeiss. The Euromal organising committee was chaired by Tadeusz Zajac (Polish Academy of Sciences) on behalf of the Association of Polish Malacologists (figure 2) and included CS member Robert Cameron who was also on the 10-strong conference Scientific Committee (figure 3).



figure 2: Tadeusz Zajac



figure 3: Robert Cameron.

The conference was attended by 139 delegates including 32 PhD students and participants from 26 countries dominated, as might be expected, by Poland (35) with the UK and Germany with the joint second largest number of attendees (13 each). The Conchological Society was well represented with eight members present (figure 4) - Robert Cameron, John Hutchinson, Maria Long, Richard Preece, Mary Seddon, Ted von Proschwitz, Tom White and Martin Willing. The Society was also, of course, further represented by institutional members such as Eike Neubert (Department of Invertebrate Animals, Naturhistorisches Museum der Burgergemeinde Bern, Switzerland) and Ira Richling (Stuttgart State Museum of Natural History, Zoology, Stuttgart, Germany).

The first three days of the event consisted of the 73 oral presentations and 66 posters which were presented at the Politechnika Krakowska conference centre. The final day left delegates with a choice of several field excursions to attend.



figure 4: Six of the Conchological Society members at Euromal 2017.

Six Conchological Society members delivered five talks and two posters at the conference these being:

#### Oral presentations:

Robert A.D. Cameron (Keynote): *Who, where, what and why: some basic questions in land mollusc diversity* (figure 5).

John M.C. Hutchinson *A parapatric contact zone between sibling species of Deroceas.*

Richard C. Preece: *Land snails of the British Paleogene.*

Mary Seddon: *The last twenty years of red listing.*

Martin J. Willing: *Genetic diversity used to investigate the colonisation and spread in Europe of the invasive clam Rangia cuneata (Bivalvia: Mactridae).*

#### Posters:

Maria P. Long: *Three protected species of Vertigo in Ireland – losses, gains and the status quo in recent years.*

Maria P. Long: *Cessation of grazing - the effects on land snail communities in farmed grassland, scrub and woodland habitats in the Burren region in the west of Ireland.*

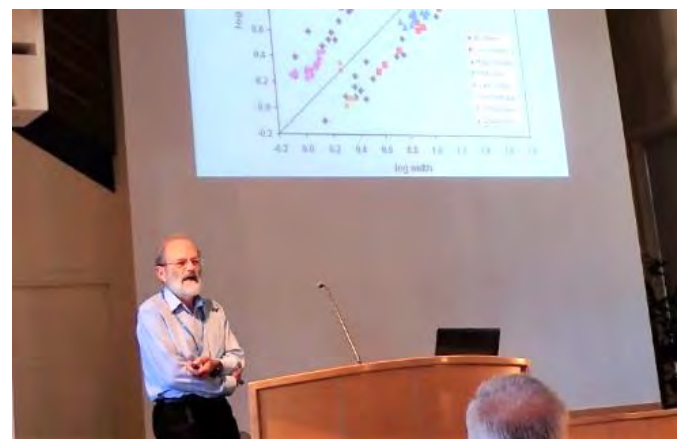


figure 5: Robert Cameron delivering his key-note lecture.



The 73 oral presentations (all fortunately delivered in English) were presented in blocks throughout the 3-day lecture period categorised thus: General Biology (6), Invasions (12), Paleo (palaeontological) (8), Ecology and behaviour (10), Taxonomy and phylogeny (15), Conservation (9), Biodiversity (6), Morphology (4) and Miscellaneous highlights (3).

To give a more understandable analysis the subjects covered the 73 presentations can be separated into a series of different themes providing a clearer insight into the balance of material delivered (table 1).

Category	Number of talks /73 and no. of posters /66 (+ approx.%)	
	Oral presentations	Poster presentations
Freshwater mussels	28 (38%) [Invasive 18 (25%); Native 10 (14%)]	12 (19%) [Invasive 6 (9%); Native 10 (9%)]
Non-marine terrestrial	20 (27%)	20 (31%)
Non-marine freshwater (other than mussels)	4 (5%)	11 (17%)
Paleo (palaeontological)	11 (11%)	8 (13%)
Marine	11 (11%)	6 (9%)
General/conservation	5 (7%)	7 (11%)

table 1: Themes of oral and poster presentations

Over a third of the oral presentations related to freshwater mussels, with about two-thirds concerned with the spread and impact of invasive species, several which are having a profound environmental impact in rivers and lakes across Europe. Two native species of conservation concern across the continent, *Unio crassus* and *Margaritifera margaritifera* were the focus of four presentations each. Terrestrial snails and slugs were also the subject of many talks and posters with 27% and 31% devoted to these respectively. With a proportionately high representation of contributors from Poland it was, perhaps, not surprising that only 11% of the talks and posters were devoted to marine molluscan subjects. To view the full range of talks and posters and also read oral presentation abstracts visit:

[https://www.euomal.pl/Euomal\\_BoA.pdf](https://www.euomal.pl/Euomal_BoA.pdf).



figure 6: Martin Willing with Barbara Preece in a break from the Euomal conference in Krakow.

Following the three days of lectures delegates had the option of joining one of several organised trips which included an introduction to Tatra Mountains as viewed from Zakopane and visits to the Ojców National Park, rivers near Poniżcie and the Wieliczka Salt Mine.

In the days following the conference a small group of us (myself and wife Liz together with Richard and Barbara Preece (figure 6)) returned south to stay for several days in Zakopane to get the chance to visit the Tatrański National Park and walk in the high Tatras. Zakopane lies on the southern Polish border in the region of Lesser Poland and has the distinction of being the highest town in Poland with inhabited parts ranging between 750 – 1,100m above sea level. During the visit we spent a day exploring the high Tatra Mountain ridge path that straddles the Polish – Slovakian border. This allows far reaching views northwards across the Polish plains and south into mountainous northern Slovakia. Despite the large number of visitors, the Tatras are home to many large mammals including northern lynx, brown bear and wolf. Warning notices (figure 7) at the park entrances provide helpful advice should one encounter a bear on a visit. Much to my surprise Liz and I saw four bears from our ridge walk, a mother and two cubs plus, in another location, a large male. Fortunately, we were in no danger as all these animals were seen (with binoculars!) on slopes well below the ridge, feeding on the abundant berry crop present in the early autumn. Chance encounters with large carnivores are, of course, not something to bother conchologists in the UK (yet!).



figure 7: Liz Willing viewing bears in the high Tatra Mountains and a 'bear warning notice'!

It is well worth the trouble to attend a Euomal conference which is a fascinating and enjoyable experience. It gives one an insight into the amazing variety of malacological work that is taking place across Europe as well as further afield. In addition to the wide range of talks Euomal is, of course, a great opportunity to both renew acquaintances, forge new contacts, put names to faces that one has seen on publications or simply to make new friends – both during the conference and also at the Conference Dinner, a most convivial occasion when all things came together on the last evening in the splendid historic surroundings of central Krakow. Euomal 2017: all-in-all a thoroughly enjoyable and enriching experience.

If this account has aroused your interest and you'd like to join a Euomal conference then you haven't long to wait – the 9<sup>th</sup> Euomal, will be taking place in Prague in 2020. As soon as further details are released these will appear both on the Society website and of course in Mollusc World. If you haven't attended a Euomal before I would thoroughly recommend the experience – you won't regret it.

# 50 years ago: from *The Conchologists' Newsletter* (no. 29, June 1969)

The *Conchologists' Newsletter* was this publication's predecessor and ran from January 1961 to December 2002.

In his presidential talk at this year's Conchological Society AGM, Martin Willing mentioned the presence of *Cerastoderma glaucum* in the lagoon type habitats recently created following the managed coastal realignment at the RSPB Medmerry site on Selsey Bill, West Sussex. The following extract from a 1969 article on this species remains of interest. [Ed.]

## from Some notes concerning *Cerastoderma lamarcki*\* (Reeve) Charles Boyden

[\*accepted name (updated here) is now *C. glaucum* (Poiret)]

*Cerastoderms edule* collected from different sites can often be recognised by their local shell characteristics. Thus Southend cockles can be separated from the River Crouch estuarine *C. edule*. Weymouth, South Wales and Anglesey cockles are also identifiable by their shell shape. In sites where the environment is particularly 'stressed', e.g. sedimentation tanks of Power stations, the *C. edule* respond to the conditions by exhibiting globular 'odd' shaped shells. Therefore *C. edule* is a very variable species as regards shell shape and is able to produce many 'ecotypic varieties' (environmental types), which should not be confused with specific differences.

However, the two closely related species of cockle *C. edule* and *C. glaucum* can be recognised in British waters. To the inexperienced eye, these two cockles can be very difficult to separate, but if a live specimen is available the problem is eased. When the valves are separated a very obvious internal difference becomes apparent. The digestive gland or liver of *C. glaucum* appears a large, black globular mass of tissue beneath the anterior region of the hinge. In *C. edule* the gland is smaller and is coloured a shade of green or brown. In the winter the tissue appears dark green, whilst during the summer months this colour is often changed to a pale brown. The organ is not as discreet or globular in appearance as it is in *C. glaucum*. This internal character has proved most useful in the separation of the two cockles from around our coasts. With additional knowledge, of the habitat and shell shape, positive identification is possible by the amateur.

...*C. glaucum* is elongated posteriorly, has sharp triangular ribs which are visible internally to the umbo and bears a short ligament. *C. edule* is more or less oval, has flattened ribs and the ligament is long. Viewed internally, the ribs fade out a short distance from the shell periphery.

The qualities of [typical 'glaucum' habitat] are simply as follows: a stagnant saline lagoon isolated from marine influences. Such sites occur quite frequently [in 1969] around the south-east coast of England, e.g. Brightlingsea boating lake; New England Creek, Foulness; Sheerness boating lake, Sheppey; Widewater, Brighton; Hermitage near Portsmouth; the Fleet at Weymouth, Dorset, to name but a few of the better examples. The lagoon feature of the vast majority of 'glaucum' sites must not be regarded as a retrograde step from living on the shore. Within this specialised habitat *C. glaucum* is very successful and often grows to quite a large size. However, what is the relationship between *C. edule* and *C. glaucum*?

*C. edule* occurs all around our shores, typically in truly marine tidal conditions. Occasionally, the species extends sub-littorally and into estuaries, but even in this latter case the overall salinity of the water must be high. This cockle extends southwards along the Atlantic coasts of France and Spain, and northwards to Holland and Denmark. It is also found in the approaches to the Baltic where oceanic effects are still evident, e.g. the Kattegat shores of Sweden and Denmark (Petersen, pers. comm. 1968). *C. glaucum* is found in the inner Baltic and the Mediterranean. Both seas have a very small tidal rise and fall, thus the cockles remain permanently submerged in basically still water. The lagoon 'glaucum' sites found throughout Southern England are miniature versions of these non-tidal seas. The habitat of this 'not-so-common' cockle is not so strange or unusual as first appears.

...Peterson (1958) regards *C. glaucum* as a brackish water specie. ...In the very recent geological history of England, brackish water lagoons were probably much more common than they are at the present day. With the advent of sea walls in about the thirteenth century (Grieve, 1959), [and subsequent sea defences] the number of potential *C. glaucum* sites would gradually have become reduced.

I suggest that the most rational approach to the question of the occurrence of *C. glaucum* round our shore would be to consider the sites we know at present as remnants of a much wider distribution. With the further reduction of suitable 'glaucum' sites owing to reclamation and fresh water canalisation the 'not-so-common' cockle will I feel in the future become even rarer than it is at present.

### References

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- Mars, P. (1951) Essai d'interprétation des formes généralement groupées sous le nom de *Cardium edule* L. *Bull. Mus.Nat. Hist. Marseille*, 11:1-31.
- Petersen, H.G. (1958) notes on the growth and biology of the different *Cardium* species in Danish brackish water areas. *medd. Komm. fra. Danm. Fisk-og Havunders. N.S.II* 22:1-31.



figure 1: Left: *Cerastoderma glaucum*, concrete pond, Littlehampton, W. Sussex (w. 30 mm). Right: *C. edule*, Appletree Bay, Tresco, Isles of Scilly (w. 46.8 mm). (photos: Peter Topley)

STOP PRESS: the following meeting has been announced

Limpets  
2020

**Biology of Limpets:  
evolution, adaptation,  
ecology and  
environmental impacts**

(Joint Meeting of the Malacological Society of London and the Marine Biological Association UK)

**17th to 19th March 2020 at The Marine  
Biological Association, Citadel Hill, PL1 2PB**

Further details and tickets are currently available at  
[www.eventbrite.co.uk/e/limpets-2020-biology-of-limpets-evolution-adaptation-ecology-environmental-impacts-tickets-60205706890](http://www.eventbrite.co.uk/e/limpets-2020-biology-of-limpets-evolution-adaptation-ecology-environmental-impacts-tickets-60205706890)

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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)

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In view of the high cost of postage for distribution from the UK, members living in the Republic of Ireland and 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, 14 St Barnabas Court, Cambridge CB1 2BZ, ([shellmember@gmail.com](mailto: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- 1Mb (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. Copy intended for the November 2019 issue should be with the Hon. Editor prior to 30<sup>th</sup> September 2019; 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.



# Conchological Society of Great Britain and Ireland

## Diary of Meetings

Please check website ([www.conchsoc.org](http://www.conchsoc.org)) for further details/updates, including other meetings arranged at shorter notice.

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**Sunday 11<sup>th</sup> August 2019: FIELD MEETING (non-marine, unless Silurian fossils!): Wenlock Edge, Shropshire.**

Leader: Mags Cousins ([mags.cousins@naturalengland.org.uk](mailto:mags.cousins@naturalengland.org.uk)). NT site with extensive ancient woodland, calcareous grassland and Silurian limestone quarries. Meet at 10.30 at Presthoke Car Park, SO 583 975.

**Saturday 31<sup>st</sup> August 2019: FIELD MEETING (marine): Titchfield Haven, Hampshire.**

Leader: Peter Barfield. Shallow muddy-sandy bivalve shore on the Solent with some dwarf *Zostera* patches; of particular interest for the recently arrived Pacific mussel *Arcuatula senhousia*; also *Mercenaria*, and possibly *Acanthocardia paucicostata*. Low spring tide at 18:04. Meet at 16:00 on shore at SU 530 023, below Cliff Road; parking can be busy, so allow time for walk in.

**September 21<sup>st</sup> September 2019: FIELD MEETING (non-marine): Wyre Forest, Worcs.**

Joint meeting with Wyre Forest Study Group. Leaders: Rosemary Winnall and Mike Averill: ([rawinnall@gmail.com](mailto:rawinnall@gmail.com)). Aquatic day, sampling Wyre Forest ponds and stream. Meet at 10:00 at Unclyss Farm, Tanners Hill, near Bewdley, Worcestershire DY12 2LR (SO 760 753). Please notify Rosemary Winnall if you intend to come.

**Friday 27<sup>th</sup> September 2019 – Wednesday 2nd October 2019: FIELD MEETING (marine): Isles of Scilly, Cornwall.**

Leader: Bas Payne ([bas.payne@gmail.com](mailto:bas.payne@gmail.com)). A good variety of rocky shores and pools, and sandy flats; rich shell fauna and other marine wildlife. Low spring tides over the weekend. Detailed programme to be arranged; if interested, please contact Bas.

**Saturday 12<sup>th</sup> October 2019: FIELD MEETING (non-marine): Knepp Castle, Sussex.**

Leader: Martin Willing ([martinjwilling@gmail.com](mailto:martinjwilling@gmail.com)).

A second chance to look at this extensive rewilding project and start to find out what effect it is having on the molluscs. If you wish to come, please contact Martin in advance. Further details are available on the website.

**Saturday 19<sup>th</sup> October 2019: INDOOR MEETING: Demonstrations, exhibits, and lecture.**

**Guest Speaker: Simon Terry: ‘The Burgundy of Britain - Exploring the autecology of Britain’s Largest Land Snail’.**

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 16<sup>th</sup> November 2019: REGIONAL INDOOR MEETING: National Museum Cardiff**

A day of talks, exhibits, and discussion, including a tour of the mollusc collection. Full details will be posted on the website.

Organiser: Anna Holmes ([Anna.Holmes@museumwales.ac.uk](mailto:Anna.Holmes@museumwales.ac.uk)) and Ben Rowson ([Ben.Rowson@museumwales.ac.uk](mailto:Ben.Rowson@museumwales.ac.uk)).

(A meeting of the Conservation and Recording Committee will be held on the day before (Friday 15 November), followed by a workshop on NBN Atlas and molluscan records led by Sophie Ratcliffe. If members who are not members of CRC are interested in attending this workshop, please contact Martin Willing ([martinjwilling@gmail.com](mailto:martinjwilling@gmail.com)).

**Saturday 14<sup>th</sup> December 2019: INDOOR MEETING: A Christmas miscellany**

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

The usual short presentations (5-20 minutes) by members, which can be anything mollusc-related, with or without exhibits; and also a quiz (with prizes!). 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 2020 for your diary:

**Saturday 25<sup>th</sup> January 2020:** 14:00: INDOOR MEETING (preceded by Council meeting):

**Guest speaker John Llewellyn-Jones, ‘Pearls and jewellery made with pearls through the ages’.**

**Saturday 22<sup>nd</sup> February 2020:** 11:00: FULL DAY INDOOR MEETING:

**Guest speaker Amy-Jane Beer, ‘Slugs, snails and saving the planet’.**

**Saturday 28<sup>th</sup> March 2020:** 14:00 ANNUAL GENERAL MEETING (preceded by Council meeting):

**Guest speaker: Robert Cameron: ‘At a snail’s pace: how a New Naturalist got written.’.**

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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.

**Indoor meetings** at the Natural History Museum take place in the Angela Marmont Centre for UK Biodiversity, Darwin Building. **Please bring plenty of exhibits and demonstration material.**

*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.*

Programme Secretary: Bas Payne, [programme@conchsoc.org](mailto:programme@conchsoc.org)