

# Mollusc World

March 2024

Issue 64



**Marine field meetings to  
Northumberland and Cornwall**  
**Risk assessments for non-native  
molluscs**  
**Book auction plans**



**The  
Conchological  
Society**  
of Great Britain & Ireland

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

## Conchological Society Book Auction

The Society's Book Auction aims to help members (and their families) to dispose of books, to help members acquire conchological books at reasonable cost, and to raise funds for the Society. There hasn't been an auction for some years, partly because sales and the number of buyers declined, and partly as an indirect result of Covid. I have a fairly large number of books which have been offered in previous auctions but didn't sell, and also other books received more recently which haven't yet been offered.

**Unsold books from previous auctions:** A list of unsold books will be placed on the CS website on 1<sup>st</sup> May 2024, with 'Buy it now' prices (based on and lower than the original auction estimate) on a first come first served basis. They can be ordered by email (preferred), by letter, or by phone. Buyers can opt to pay for postage, or can collect from my home (in Devon); it may be possible to arrange for collection at a Conchological Society meeting. For any book that remains unsold, the price will then be reduced by large steps every month (a new list of available books and prices will be posted on the website on 1<sup>st</sup> June, 1<sup>st</sup> July and so on), until its price is £1; books that do not sell at £1 during the next month will be offered free, and if still unwanted, will be disposed of.

**Next book auction:** A list of books not previously offered for auction will be posted on the CS website in September 2024, with a closing date for bids on 15<sup>th</sup> November 2024. The same rules will apply as in previous auctions, and will be posted on the website at the same time as the list.

**Future auctions:** Whether there are further auctions will depend in part on how well this auction goes, and in part on my energy and/or on whether someone else is willing to take the job on. Please contact me if you are interested and/or if you wish to dispose of books through the Society.

*Bas Payne*

bas.payne@gmail.com (preferred), or 01647 24515, or The Mill House, Clifford Bridge, Drewsteignton, Exeter EX6 6QE, Devon

## Mollusc World

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 many 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 31 for further details).

Many thanks to all those who have contributed to this issue or who sent in comments and news items. Please consider putting 'pen to paper' for the next issue (especially if you have not written before). Your magazine needs you!

*Peter Topley*  
Hon. Editor

## About the Conchological Society

The Conchological Society of Great Britain and Ireland is one of the oldest societies devoted to the study of molluscs. It was founded in 1876 and has around 265 members and subscribers worldwide. All members receive this magazine. In addition, The Journal of Conchology, which specialises in Molluscan Biogeography, Taxonomy and Conservation, is available online at <https://conchsoc.org/journal>. New members are always welcome to attend field meetings and indoor meetings before joining.



## Contents

(Note: some titles are abbreviated.)

- 3** *Balea perversa* s.s. with two teeth *Adrian T. Sumner*  
*Balea heydeni* in Northumberland *Peter Topley*
- 4** Northumberland marine field meeting, Sept. 2022  
*Rosemary Hill*
- 6** From bankruptcy to Brompton: Henry John Bellars  
*Brian Goodwin*
- 9** Shells, shells, thousands of shells *Adrian Brokenshire*
- 10** Whiteknights, University of Reading & its molluscs  
*Tom Walker*
- 13** Jocelyn McGregor's snail sculptures in Aldgate  
*Mary Fane de Salis*
- 14** A celebration for Alan Stubbs at Buglife,  
Peterborough *Peter Topley and Martin Willing*
- 16** Marine field meeting to Bude, Cornwall, Apr. 2023  
*Rosemary Hill*
- 17** A stained glass snail *Kevin Brown*
- 18** Obituary: Judith Mary Nelson *Kevin Brown*
- 19** British Shell Collectors' Club events
- 20** Molluscs in beach drift and river flood debris  
*Peter Topley*
- 21** Molluscs in the news *Kevin Brown*
- 22** The Risk Assessment of Non-native Molluscs  
Species in Great Britain *Martin Willing*
- 24** *Cochlicopa* cf. *lubrica* or cf. *lubricella* ?  
*Tony Wardhaugh*
- 27** Yellow *Arion* *Adrian T. Sumner*
- 28** Book Review: Silk – a history...
- 29** Wet seepage sampling for non-marine micro  
molluscs *Rosemary Hill*
- 30** Conchological Society contacts
- 31** Conchological Society field meetings diary  
About the Society: how to join/  
Mollusc World submissions/membership update
- 32** Conchological Society indoor meetings diary

The Hon. Editor's thanks go to Janet Ridout Sharpe for her vital help with checking and copy editing.

© 2024 The Conchological Society of Great Britain & Ireland ISSN 1740-1070

All photographs and drawings featured in articles are by and © the author unless otherwise indicated.

No representation is made about the accuracy of information included in any articles, which solely constitute the authors' personal views on the subjects covered, and are not necessarily those of the Hon. Editor or the Conchological Society.

Printed by Short Run Press, Exeter, EX2 7LW

**Front Cover:** *Lepidochitona cinerea* at Black Rock, Widemouth, Cornwall (photo: Rosemary Hill) (see page 16).

## *Balea perversa* s.s. with two teeth

Adrian T. Sumner

*Balea perversa* (Linn., 1758) and *B. heydeni* von Maltzan, 1881 were described as distinct species by Gittenberger *et al.* (2006), and the characters that distinguish these two species have been examined further by Tony Wardhaugh in these pages (Wardhaugh 2023). One feature in some specimens of *B. perversa* is a parietal denticle, which does not occur in *B. heydeni*. It may therefore be of interest that a specimen of *B. perversa* with two denticles has been found (figure 1). This specimen was found in 1931 near Duddingston Loch, Edinburgh, where there is still a significant population of this species.

My thanks are due to Sankurie Pye and her colleagues for arranging access to the collections of the National Museums of Scotland.

### References

- Gittenberger, E., Preece, R.C. & Ripken, T.E.J. (2006) *Balea heydeni* van Maltzan, 1881 (Pulmonata: Clausiliidae): an overlooked but widely distributed European species. *Journal of Conchology* **39**: 145–150.
- Wardhaugh, T. (2023) Notes on *Balea* in Yorkshire and Durham. *Mollusc World* **62**: 3–7.



figure 1: A specimen of *Balea perversa* s.s. with two parietal teeth, collected by A.R. Waterston on 1<sup>st</sup> October 1931 from near Duddingston Loch, Edinburgh, and now in the collections of the National Museums of Scotland, accession number Z.1959.21.1263.

## *Balea heydeni* in Northumberland

Peter Topley

A recent article by Tony Wardaugh on *Balea perversa* and *Balea heydeni* in Yorkshire and Durham (Wardhaugh 2023) provided some useful notes on the differences between these two species (see also above). According to the NBN database, Northumberland, in north-east England, has fewer records of *B. perversa*, none of which appears to have been made in this century, and no records of *B. heydeni*. Whilst on a visit to Lindisfarne Priory, on Holy Island in north Northumberland (Vice County 68) in October 2023, I was pleased to see that English Heritage had allowed some vegetation to grow on some of the 14<sup>th</sup>-century walls bordering what was then the Prior's lodging (figure 1). There had been rain the previous night and it remained humid, with the temperature about 11°C. Both adult and juvenile *B. heydeni* were common and actively crawling on the wall in this area, together with *Lauria cylindracea*.



figure 2: Adult and juvenile *Balea heydeni* on the wall of Lindisfarne Priory, 25.10.2023.



figure 1: Wall at Lindisfarne Priory, Northumberland, where *Balea heydeni* was recorded.

This appears to be the first record of *B. heydeni* for VC68 and indeed for the whole county. In 2010 Adrian Sumner recorded this species about 20 miles further north at Eyemouth, Berwickshire (there are other recent records from localities across southern and central Scotland), suggesting that this species may be more established in the area than the lack of previous Northumbrian records indicates. On submitting the record to Ben Rowson, the Society's Non-Marine Recorder, he commented: '*Balea heydeni* does seem to be a good coloniser. A couple of years ago I found it living under a *leylandii* hedge at the edge of an industrial estate [in Pontyclun near Cardiff]. There is no old stonework nearby.'

### Reference

- Wardhaugh, T. (2023) Notes on *Balea* in Yorkshire and Durham. *Mollusc World* **62**: 3–7.

# Conchological Society marine field meeting held in Northumberland, 10<sup>th</sup> – 15<sup>th</sup> September 2022

Rosemary Hill

This meeting was convened to examine some shores in mid-Northumberland, including sites not previously looked at during a Conchological Society marine field meeting, except for the shore at Low Newton where the late Ted Phorson regularly collected his shell sand samples and identified many of the micro-molluscs now held by Amgueddfa Cymru/National Museum of Wales. The settled dry summer suggested that the sites would be good for shell sand, but just prior to the meeting there was a storm with very high sea swells which piled up large amounts of detached seaweed and completely swept away shell sand deposits from some shores. However, except for one day, the weather was mild and sunny for the actual meeting. Several of the participants shared a holiday home where a laboratory could be improvised, allowing for valuable interaction among attendees over specimens and their identification.

On the first day we visited the shore at Low Hauxley, opposite Coquet Island, which has extensive reefs of Carboniferous sandstone/Coal Measures. It produced the only nudibranch of the meeting, the sea lemon *Doris* (was *Archidoris*) *pseudoargus* Rapp, 1827 (figure 1) and an old shell of *Neptunea antiqua* (Linn., 1758) within a total of 13 mollusc species, mostly alive on the shore. A further ten species were found in weed washings.



figure 1: *Doris pseudoargus*, Low Hauxley.

The shore at Boulmer Haven is also mainly sandstone/Coal Measures but is weedier and encloses a large tidal pool (figure 2). It produced a list of 22 species, very similar to Low Hauxley, despite appearing more sheltered. Low Newton (Newton-by-the-Sea) (figure 3) was the next site to be visited, which is noted for its shell sand. This was the first site where a shell sand sample was procured, by painstakingly fishing up small amounts from under water on a sheet of milk bottle plastic. This was a big contrast to my last visit in 2014, when shell sand trapped at the top of the



figure 2: Boulmer Haven pool at low tide.



figure 3: Shore at Low Newton.

runnels in the sandstone/Coal Measures at the north end of the shore formed a large, exposed deposit. In 2022, in addition to 11 mollusc species found in situ and 12 species in weed washings, a further 52 species were found in the shell sand. This site had by far the largest list of any site visited, but as shell sand was not available at all sites the value of this observation is limited. Some of the more unusual micro-species were *Marsenia* (was *Lamellaria*) *perspicua* (Linn., 1758) (figure 4), *Eulima glabra* (da Costa, 1778) (figure 5) and *E. bilineata* Alder, 1848 (figure 6). It is interesting to note that in the June 2014 shell sand sample, just over half the number of species were found, showing that, if the opportunity arises, it is worth revisiting shores.

Harkess Rocks, just north of Bamburgh Castle (figure 7), has some Whin Sill dolerite intruding, along with associated metamorphic rocks and a good expanse of sand adjacent. This site was less sheltered than Low Newton or Boulmer but shore records, weed washings and shell sand gave a total of 36 mollusc species. Several of these records were of shell only, sandy shore species but included the only specimens of *Gari fervensis* (Gmelin, 1791) and *Moerella donacina* (Linn., 1758) found during the meeting. Some of the group then went on to Budle Bay, a mixed site of sand and mud with a few traces of *Zostera* (seagrass) in poor condition,

possibly washed in from elsewhere. A small sample of brown weeds clinging to the occasional rock was taken but did not add any species to the list. Of the 13 molluscs listed, the only live species were *Cerastoderma edule* (Linn., 1758) and *Littorina littorea* (Linn., 1758).



figure 4: *Marsenia perspicua*. Above: shell fragment from shell sand at Low Newton. Below: specimens from Hannafore Cove, Cornwall, for comparison (scale divisions = 1 mm).  
(photo: Peter Topley)



figure 5: *Eulima glabra* from shell sand at Low Newton (scale divisions = 1 mm).  
(photo: Peter Topley)



figure 6: *Eulima bilineata*. Above: shell fragment from shell sand at Low Newton. Below: specimen from the Lizard, Cornwall, for comparison (scale divisions = 1 mm).  
(photo: Peter Topley)

Sugar Sands/Howdiemont (mixed, sandstone/limestone) provided a mixed sandy and rocky shore with 11 species found on-shore (four shell only), eight species in weed washings, and a further 25 species from shell sand which were all also found at Low Newton. The final site visited was the rocky shore at Newbiggin North (Coal Measures sandstone) where 11 species were found on the shore and a further four in weed washings. This shore is next to a busy beach in a small town with a history of shipping and coal mining and a less expansive area of rock, so the smaller number of species was not surprising. However, it was the only site with any upper shore so *Littorina saxatilis* (Oliv., 1792) and *Melaraphe neritoides* (Linn., 1758) were found for the first time. At all sites surveyed, the sandy shores were fairly exposed and the numbers and species of shells present were very limited. *Ensis leei* M. Huber, 2015 was reported from Alnmouth Bay by a member visiting at one of the field sites. This introduced species from North America is continuing to expand its range.



figure 7: Some of the group at Harkess Rocks.

# From bankruptcy (via Blake) to Brompton: the (short but eventful) life and death of Henry John Bellars

Brian Goodwin

In the J. Wilfrid Jackson Archive at Buxton Museum and Art Gallery, where I have worked as a volunteer for many years, I discovered two copies of a modest little publication, the *Illustrated Catalogue of British Land and Freshwater Shells* by Henry J. Bellars (HJB), published by Minshull and Hughes of Chester in 1858 (figure 1). Having never previously come across the booklet, nor heard mention of its author, I ventured to discover a bit more.

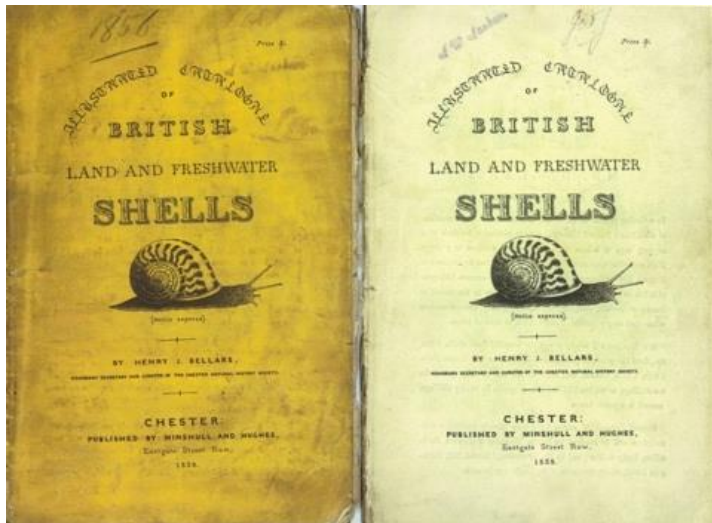


figure 1: Two copies of the booklet, with different coloured covers.

Initially, traces of HJB were pretty hard to come by. Then, I found him on a website of the Association of British Philatelic Societies Ltd, in a list of 'Who was who in philately'<sup>1</sup>. This listed Bellars as 'Schoolmaster. Secretary Chester Natural History Society [and a] Photographic artist in London'. In addition to the present booklet, he was also identified as the author of an *Historical Numismatic Atlas of the Roman Emperors*. Finally, it was recorded, he compiled (with J.H. Davie) *The Standard Guide to Postage Stamp Collecting*. Clearly this was 'our' HJB, and there were indications of a man with many talents or interests, although searching for his alleged book, *Historical Numismatic Atlas of the Roman Emperors*, has eluded me.

With this as a starter, I decided to go back to basics with some genealogy. HJB (Junior) was the son of Henry John Bellars (1799–1851) and his wife Frances (née Cherrington, 1806–1891). He was the eldest of (at least) eight children, born in the small Cambridge market town of Whittlesey<sup>2</sup> where his father HJB (Senior) was an attorney at law. Born on 4<sup>th</sup> May 1824, he was christened four days later – but then the childhood trail went cold.

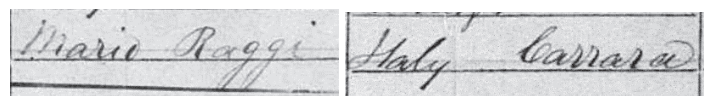
By the time of the 1841 census the family were still in Whittlesey and HJB, aged 17, was still at home, the eldest of (by then) seven children. His working life did not apparently get off to a good start since in late July 1847 he filed for bankruptcy and the *London Gazette* reported him as a 'late Money Scrivener', i.e. an arranger of loans. In the same publication on 18<sup>th</sup> January 1848 there appeared:

**Declaration of Dividend under a Fiat, dated 29th July 1847, against Henry John Bellars, of Whittlesea, in the county of Cambridge, late Money Scrivener.**

The first dividend payable was at the rate of just 1s. 6d. in the pound, and it seems that Henry decided his talents were not, at least at this stage, as a businessman. Unsurprisingly then, the next appearance I found, in a *Hunt's Directory* for 1850, indicated a new career path:

**NORFOLK AND NORWICH MUSEUM, St. Andrew's street; honorary secretary, Edward Henry St. Quinton; treasurer, Horatio Bolingbroke; curator, Henry John Bellars.**

At what stage Henry moved out of the family home is not clear but by the 1851 census the 27-year-old museum curator was recorded as living in St Andrew's Street, Norwich, presumably in a residence associated with the museum. Moreover, he had an intriguing visitor, transcribed as 'Maria Raggi'. In fact, the name is clearly written as Mario Raggi, who was a sculptor from the famous marble-producing area of Carrara in Italy:



Wikipedia reports that Raggi (1821–1907), having studied in Carrara and Rome, arrived in London in 1850<sup>3</sup>. I have been unable to find out what he was doing in Norfolk – perhaps just visiting the museum?

Bellars did not linger long in Norwich. On 6<sup>th</sup> May 1852 he married Rachel Turner, in Leicester. Bellars was still listed as a curator when they married, possibly referring to Norwich, or perhaps a new post. Either way, the newlyweds must soon have moved to Chester, where his shell book was published. The move to Chester is clear from the birth records of three children, who were all christened at St Oswald's, Chester: Rachel Fanny on 16<sup>th</sup> March 1854; Agnes Mary on 27<sup>th</sup> February 1856; and Henry William on 14<sup>th</sup> August 1858. It was in 1858 that the *Illustrated Catalogue of British Land and Freshwater Shells* was published, priced at 3 shillings, a fairly significant amount for the time. The title page stated that HJB was 'Honorary Secretary and Curator of the Chester Natural History Society', while his address was recorded as '4, Pepper Street, Chester'. Google Maps reveals that this address is currently the location of a takeaway fast-food outlet called 'Bang Bang Burrito'!

Interestingly, the two copies of his shell book at Buxton Museum are not identical (figure 1). One has a strong yellow colouration while the other is very pale but with a yellow and brown hand-tinted illustration of a garden snail. The booklet is modest in size, having a short introduction and dedication followed by 30 pages of text describing the species and four hand-tinted plates. It includes 125 species, although only the shelled types are illustrated. A short extract to illustrate the text is shown in figure 2.

## 17. *Helix Cantiana*. Kentish snail.

Shell seven to nine lines wide and three to four high, pale yellowish or reddish white, rufous about the mouth and underneath; somewhat depressed; umbilicus moderate.

In sandy and chalky districts; Faversham, Kent; Norwich.

figure 2: Text extract from Bellars' *Illustrated Catalogue of British Land and Freshwater Shells*.

A search on the internet revealed little about the publication and its author. The booklet itself gave HJB's Chester address, while the back cover listed a number of 'services' offered by Bellars, notably to:

- Preserve 'Birds and other specimens illustrative of the various departments of Natural History (excepting the larger animals)' – giraffes were clearly out;
- Execute 'Lithographic Ink or Crayon Drawings';
- Engrave 'Cameos in the Greek or Roman style';
- 'Sell, decipher, and chronologically arrange ancient coins';
- 'Supply Artists' Water-colours, at reduced price'.

A particular offer was the supply of sets of 'beautiful fossil shells, fruits, &c., from the principal geological formations, such as the Barton Beds, Crag, Chalk, Oolites, &c., &c.'. These were available at 50 species for 10 shillings, or 120 species for 20 shillings. Clearly Bellars was a man with a range of skills and interests, and was back in business.

Reference was again made to his friends in the Chester Natural History Society but further searches failed to trace

any details. A similarly-named body, the Chester Society of Natural Science, was founded by Charles Kingsley, then Dean of Chester Cathedral (and the author of *The Water Babies*) in 1871, but this was three years after Bellars had died. Nor could I find any evidence that Bellars was ever a 'schoolmaster'.

Figures 3 and 4 show parts of Plates II and III from the *Illustrated Catalogue*. The plates have 'del et lith' on them which means 'drawn and lithographed' by Bellars (del = *deliniavit* or delineated).

The only other information to be gleaned from the booklet itself was the dedication, to a Mrs J. Broughton of Peterborough, and the offer of thanks to those people who had helped to acquire some of the rarer shells for the purpose of illustration, including S.P. Woodward and Joshua Alder.

Going back to the philatelists' website, the claim that Henry was a 'photographic artist in London' seemed to merit further investigation, especially after I found an obscure self-published book (Boase, 1892) that referred to Bellars as

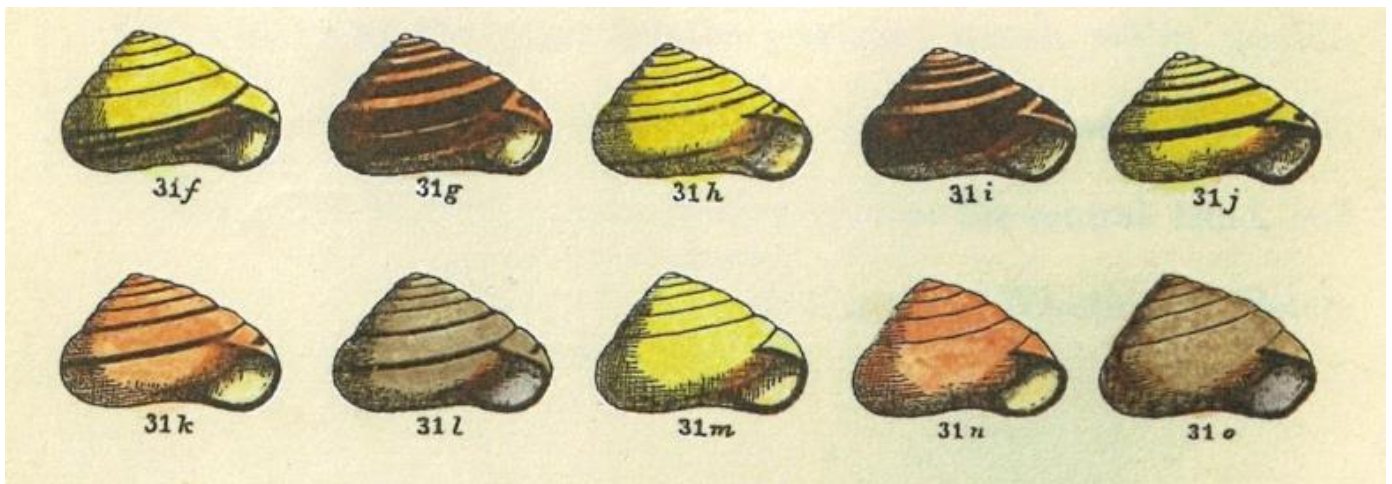


figure 3: Part of Plate II from the *Illustrated Catalogue*. *Helix* [*Cepaea*] *nemoralis* varieties.

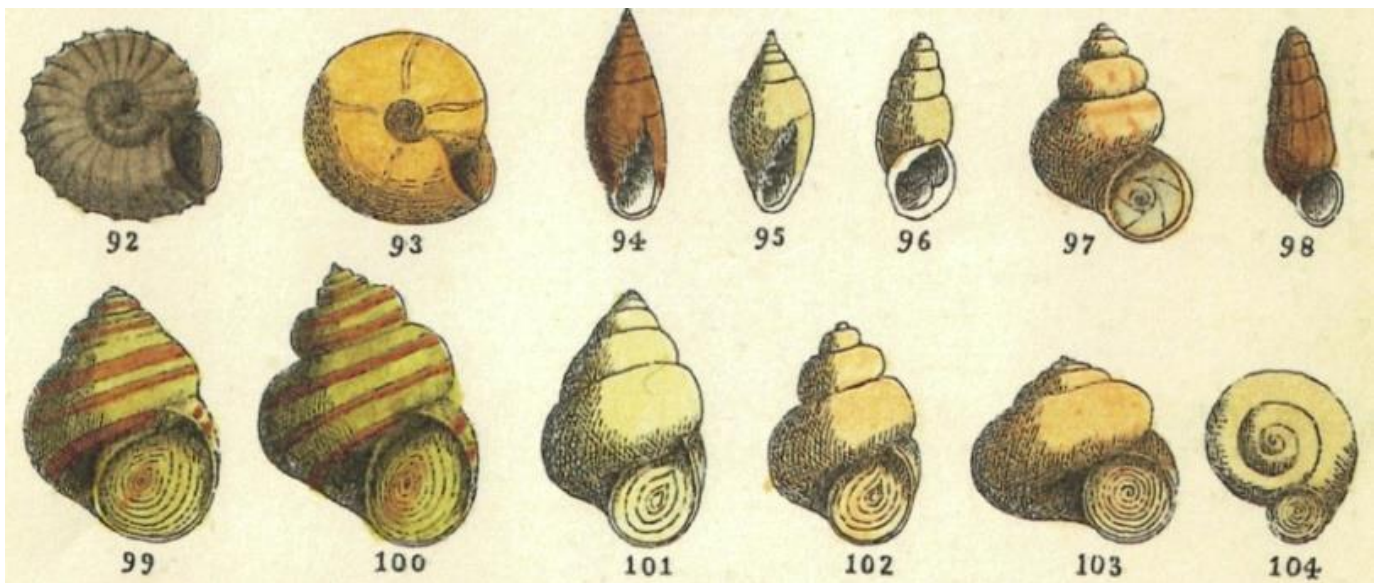


figure 4: Part of Plate III from the *Illustrated Catalogue*. Names as per the original text, followed by current accepted name where different: 92. '*Planorbis imbricata*' [*Gyraulus crista* (Linnaeus, 1758)]; 93. '*Planorbis nitidus*' [*Segmentina nitida* (Müller, 1774)]; 94. '*Conovulus denticulatus*' [*Myosotella myosotis* (Draparnaud, 1801)]; 95. '*Conovulus bidentatus*' [*Melampus bidentatus* Say, 1822]; 96. '*Carychium minimum*' Müller, 1774; 97. '*Cyclostoma elegans*' [*Pomatias elegans* (Müller, 1774)]; 98. '*Acicula fusca*' (Montagu, 1803); 99. '*Paludina vivipara*' [*Viviparus viviparus* (Linnaeus, 1758)]; 100. '*Paludina Listeri*' [*Viviparus contectus* (Millet, 1813)]; 101. '*Paludina tentaculata*' [*Bithynia tentaculata* (Linnaeus, 1758)]; 102. '*Paludina ventricosa*' [*Bithynia leachii* (Sheppard, 1823)]; 103. '*Valvata piscinalis*' (Müller, 1774); 104. '*Valvata cristata*' (Müller, 1774).

‘the best facsimilist in England’. Having tried his hand at many different careers, it seems that, finally, Bellars had found his *métier*. He probably moved to London in about 1862 (I could not find him in the 1861 census) and from then on quickly developed a solid reputation as a facsimilist. In particular, he is known to have been employed by the publisher John Camden Hotten to produce facsimiles of William Blake’s original artworks held in the British Museum. Bellars made drawings without direct tracing and translated them into lithographic prints which he himself hand-tinted, as with the *Illustrated Catalogue* plates. Facsimile plates of Blake’s *The Marriage of Heaven and Hell* are so accomplished and highly sought after that sets still sell for hundreds of pounds at reputable auction houses such as Bonhams and Sotheby’s (figure 5)<sup>4</sup>.

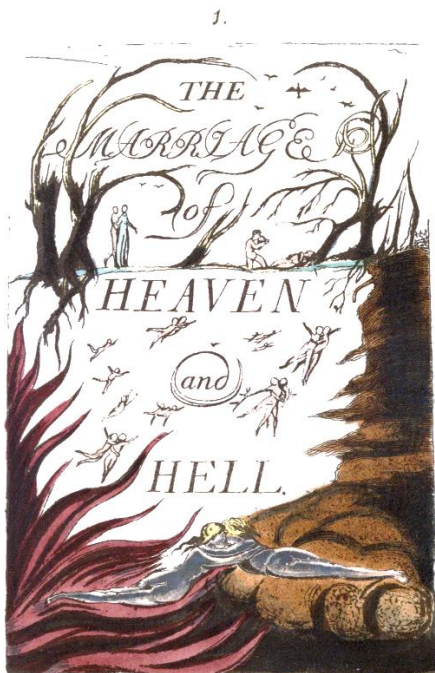


figure 5: Henry James Bellars: Facsimile frontispiece of Blake’s *The Marriage of Heaven and Hell*.

(Public Domain image from A.C. Swinburne (1868) *William Blake. A Critical Essay*. John Camden Hotten, London)

Whether HJB was indeed the best facsimilist in England as Frederic Boase proposed, I am not qualified to say. What we do know is that some of Bellars’ Blake drawings were found in a cellar after Hotten’s death and acquired by a dealer who unwittingly offered them for sale as genuine Blakes – so they must have been convincing!

Having finally found his niche, Bellars unfortunately did not live long to reap the rewards of his undoubted artistic talent. Aged just 44, he met a sudden death from pneumonia in 1868. In addition to other personal details, his death certificate confirms his occupation as ‘photographic artist’ (figure 6).

He was buried on 26<sup>th</sup> June 1868 in Brompton Cemetery, among more than 200,000 other souls and in pretty distinguished company. Other luminaries buried there include: suffragette Emmeline Pankhurst; Dr John Snow of

cholera fame; geologist Sir Roderick Impey Murchison; and, more recently, actor Brian Glover. At least one other conchologist is also buried there – Gerard Pierre Laurent Kalshoven Gude (1858–1924), a member of CSGBI who also served as Secretary and President of the Malacological Society of London. Figure 7 shows what the cemetery looked like around the time Bellars was buried, compared with more recently.

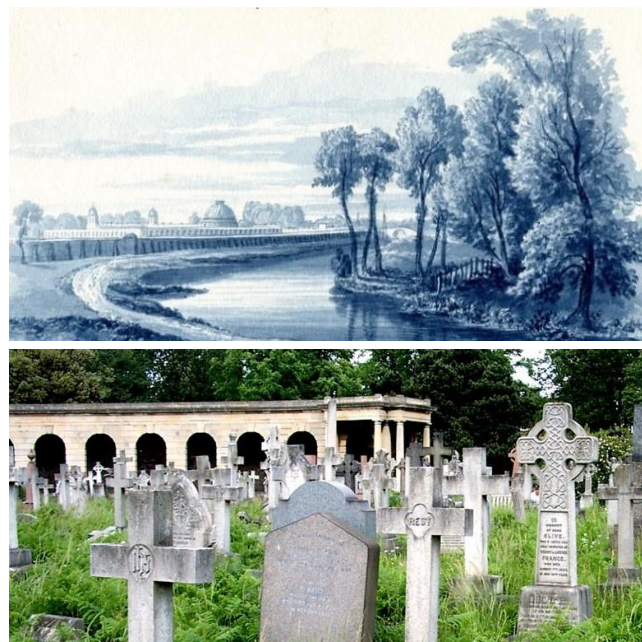


figure 7: Above: Brompton Cemetery and Kensington Canal, 19<sup>th</sup> century (detail). (Public Domain)

Below: Brompton Cemetery. (Photo: C.G.P. Grey, CC-BY-2.0)

Henry John Bellars led a relatively short but eventful life, and fittingly his resting place is now a haven for wildlife. Brompton Cemetery has been identified as ‘a Site of Borough Importance for Nature Conservation (Grade I) ... that support[s] a diverse assemblage of invertebrates’. I imagine he would have approved.

## Reference

Boase, F. (1892). *Modern English biography containing many thousand concise memoirs of persons who have died since the year 1850, with an index of the most interesting matter*. Volume 1 (of 4), A-H. Truro: Netherton & Worth, for the author.

## Notes

<sup>1</sup> <https://www.abps.org.uk/who-was-who-in-philately/>.

<sup>2</sup> [https://www.ancestry.co.uk/genealogy/records/henry-john-bellars-246d0yj3?geo\\_a=r&geo\\_s=us&geo\\_t=uk&geo\\_v=2.0.0&\\_ga=2.24030073.216442907.1649758191-993855107.1649758191&o\\_iid=41013&o\\_lid=41013&o\\_sch=Web+Property](https://www.ancestry.co.uk/genealogy/records/henry-john-bellars-246d0yj3?geo_a=r&geo_s=us&geo_t=uk&geo_v=2.0.0&_ga=2.24030073.216442907.1649758191-993855107.1649758191&o_iid=41013&o_lid=41013&o_sch=Web+Property).

<sup>3</sup> [https://en.wikipedia.org/wiki/Mario\\_Raggi](https://en.wikipedia.org/wiki/Mario_Raggi).

<sup>4</sup> [https://en.wikisource.org/wiki/William\\_Blake,\\_a\\_critical\\_essay](https://en.wikisource.org/wiki/William_Blake,_a_critical_essay)

|                                                                          |                             |      |             |                        |                        |                                                                               |
|--------------------------------------------------------------------------|-----------------------------|------|-------------|------------------------|------------------------|-------------------------------------------------------------------------------|
| Twenty<br>Second<br>June<br>1868<br>12 Bedford<br>Court<br>Covent Garden | Henry J.<br>John<br>Bellars | Male | 44<br>Years | Photographic<br>Artist | Pneumonia<br>Certified | Harriett Maxwell<br>present at the death<br>13 Bedford Court<br>Covent Garden |
|--------------------------------------------------------------------------|-----------------------------|------|-------------|------------------------|------------------------|-------------------------------------------------------------------------------|

figure 6: Death certificate of Henry John Bellars.

# Shells, shells, thousands of shells

Adrian Brokenshire

Early in September 2023 I holidayed, collected and recorded shells in North Devon, staying at Diddywell near Appledore. We had fantastic views over Northam Burrows in Bideford Bay and the Taw estuary, with Lundy Island faint in the distance.

Despite poor weather, I managed to 'do' shells for five days of the week-long stay, taking in sites at Westward Ho!, Northam Burrows, Appledore and across the estuary at Instow. I collected and recorded a good range of material from a mix of sandy beaches through to man-made coastal defence structures.

As a break from marine areas, I recorded some land snails from dune systems at Northam Burrows and Instow (see below for the list of identified marine and land shells).

A couple of high moments of the visit were the finding of a sinistral *Cerneuella virgata* (da Costa, 1778) at the Burrows (figure 1) and an 'adventive' shell from a beach at Instow, *Monetaria moneta* (Linn., 1758) (figure 2). On my return home, details of all the species recorded were sent to the Conchological Society Marine and Non-Marine Recorders.



figure 1: A sinistral *Cerneuella virgata*, Northam Burrows.



figure 2: The *Monetaria moneta* shell found at Instow.

You might think that these were enough 'highs' for one holiday, but not so. The main highlight for me was the discovery of a beach at Instow which resulted in the title of this article. A bay, between areas known locally as Blackground and Coolstone (figure 3), exhibited a long wide drift line which must have contained thousands upon thousands of beached shells forming a veritable crunchy pavement when walking along the beach (figure 4). A multitude of shells, yes, but not in the number of species, as only nine were predominant: *Littorina littorea*, *Littorina saxatilis*, *Littorina obtusata*, *Steromphala umbilicalis*, *Phorcus lineatus*, *Patella vulgata*, *Nucella lapillus*, *Macoma balthica* and *Cerastoderma edule*; the *Littorina* species were by far the most common. This was another 'high moment' indeed, and it rounded off the holiday very nicely!



figure 3: Part of the bay between Blackground and Coolstone at the Taw estuary at Instow, North Devon. The long wide deep drift area is at the centre running left to right.

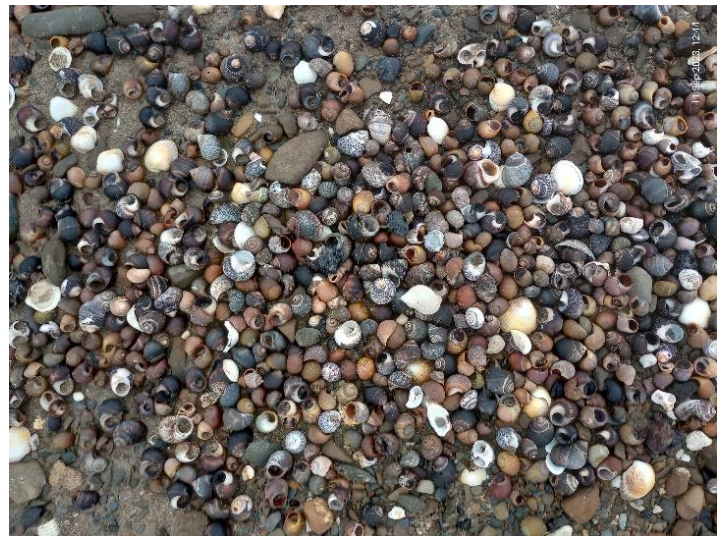


figure 4: Surface of the drift area with a multitude of shells.

## List of species identified (in alphabetical order)

### Marine gastropods

*Buccinum undatum*, *Euspira catena*, *Euspira nitida*, *Epitonium clathrus*, *Littorina fabalis*, *L. littorea*, *L. obtusata*, *L. saxatilis*, *Nucella lapillus*, *Ocenebra erinaceus*, *Patella depressa*, *P. vulgata*, *P. ulyssiponensis*, *Peringia ulvae*, *Philine quadripartita*, *Phorcus lineatus*, *Retusa obtusa*, *Rissoa parva* (and f. *interrupta*), *Scaphander lignarius*, *Steromphala cineraria*, *S. umbilicalis*, *Tritia incrassata* and *Monetaria moneta* (adventive).

### Marine bivalves

*Abra alba*, *Acanthocardia echinata*, *Cerastoderma edule*, *Chamelea striatula*, *Diplodonta rotundata*, *Donax vittatus*, *Dosinia exoleta*, *Ensis siliqua*, *Fabulina fabula*, *Hiatella arctica*, *Lasaea adansoni*, *Macoma balthica*, *Macomangulus tenuis*, *Macra stultorum* (and f. *alba*), *Mimachlamys varia*, *Mytilus edulis*, *Nucula nitidosa*, *N. nucleus*, *Pharus legumen*, *Ruditapes decussatus*, *Scrobicularia plana*, *Spisula solida*, *S. subtruncata*, *Tellinomya ferruginosa* and *Varicorbula gibba*.

### Land snails

*Candidula intersecta*, *Cepaea hortensis*, *C. nemoralis*, *Cerneuella virgata* (two colour forms and one sinistral specimen), *Cochlicella acuta*, *Cochlicopa lubricella*, *Cornu aspersum*, *Pupilla muscorum*, *Theba pisana* and *Vallonia excentrica*.

Whiteknights is the main campus for the University of Reading in Berkshire, lying just south of the town centre and covering about 130 hectares. Although much built up with University departments and halls of residence, there are extensive open grounds with woodland, grassland and a lake.

The estate was purchased by the University in 1947, but has a venerable history. The University's coat of arms shows three scallops (figure 1); these derive from the arms of the now ruined Reading Abbey which reputedly once housed 'The hand of St James the Apostle' whose crest included a stylised *Pecten jacobaeus*. The lower half of the University crest incorporates the red rose of Lancashire which at one time featured on the coat of arms of the Royal County of Berkshire.

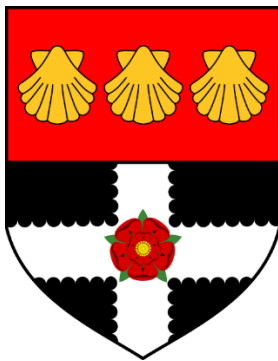


figure 1. The coat of arms of Reading University.

The estate of White Knights, as it was originally named, dates back to Norman times. One account says that it was occupied by John de Erleigh II, the foster-son of William Marshal, the Regent of England, with the estate taking its name from his grandson, John de Erleigh IV, known as the 'White Knight', perhaps so named both for his appearance and his chivalrous behaviour.

White Knights was purchased in 1606 for £7500 (around £1.5 million in today's money) by Sir Francis Englefield, who was later created 1<sup>st</sup> Baronet Englefield. The family made many changes to their Reading lands, including the creation of the lake. The date when a small stream was dammed does not seem to be recorded, but it was certainly prior to the mid-18<sup>th</sup> century as it is shown on a map dated 1756 (figure 2). This lake remains a tranquil feature of the present-day University campus (figure 3). Henry Englefield, the 7<sup>th</sup> Baronet, sold White Knights in 1798 when the family became established in its present location to the west of Reading.

The purchaser was George Spencer-Churchill, Marquis of Blandford, who later became the 5<sup>th</sup> Duke of Marlborough. It was during George's period that Whiteknights (the name became contracted around this time) flourished, when the house and gardens became known as 'the most celebrated estate in the country'. He built a grand house where he laid on extravagant and wild entertainments. The grounds were laid out in French style, with numerous cottages, gazebos, arbors, gardens with the rarest plants, a vineyard, a wilderness, bridges and more. These grounds must have been a paradise for molluscs! There is very little structural



figure 2: A map dated 1756 showing that the lake had been created by this time.



figure 3: Whiteknights lake in 2023. (photo: June Chatfield)

evidence remaining of this extravaganza, but one notable feature still to be seen is the grotto. This originally had a conchological component, as described in an old book about the estate: 'Conchs of glowing pink, or bold black and white, are seen on every side, and ... nautiloid and ear shells, give variety to the internal decorations, while at the entrance many noble clams are scattered around. On the top is placed a magnificent Nautilus, and a little below it an immense Brainstone, studded with green moss' (Holland 1819). The author obviously did not know the difference between a nautilus and a giant clam! (figures 4 and 5).



figure 4: The Grotto in 1819, with detail of the giant clam on top.



figure 5: The Grotto in 2023.

The lavish lifestyle led by Spencer-Churchill eventually resulted in bankruptcy, and in 1819 he moved to Blenheim Palace in Oxfordshire, already the residence of other members of the family and later to become the home of Sir Winston Churchill. The Whiteknights estate was sold in 1844 when the grand house was demolished. It was divided into several properties and had multiple owners until 1947, when it became the main campus of the University of Reading.

I have walked around the campus numerous times since I moved to Reading in 1979 but had never really considered its molluscan content. The geology is entirely gravel and clay, with no chalky substrate for a good distance to the north. Slugs may well thrive, but shelled molluscs were likely to be few. This concept was born out by the University biodiversity website, which listed (undated) ten slugs but not a single shelled mollusc. Searching other websites (the Conchological Society database, NBN and iRecord) did bring up six non-slug molluscs, but it certainly seemed time for a more comprehensive survey to be undertaken to see if the campus really was a black spot for molluscs.

So a field meeting was arranged for 22<sup>nd</sup> June 2023. On the day there were three CS members and one guest; June Chatfield had planned to be present but unfortunately a train strike was scheduled for that day, so she made her own field visit the day before. I made several further visits in September and October before presenting our findings to the Regional Meeting held in Reading in November. Figure 6 shows the areas we covered between us and it can be seen that we searched a good variety of habitats, ranging from woodland (the Wilderness and smaller treed areas), the University botanical gardens (Harris Gardens) and the lake, although this was limited to dipping from its banks (I have been informed that the University would never give permission for any form of boat to be used on the lake).

Our various searches proved far more successful than I could have hoped for, and it is interesting to show how the number of species increased markedly with additional visits:

21 July 2023: June Chatfield – 17 species;

22 July 2023: CS field day (Rosemary Hill, Imogen Cavadino, Stefan Phillips, Tom Walker) – increase to 37 species;

September/October 2023: Tom Walker (six visits) – increase to 55 species.



figure 6: Whiteknights campus showing the areas searched for molluscs.

Table 1 shows the molluscs found in the various locations. The columns record the species that had previously been recorded on the campus, then our finds, and finally the species that we have been able to add to the campus list. All but five were found live. One of those of which we only found old shells was *Anodonta cygnea*; at one time this was a common species in the lake, but at some time in the 1970s a copper roof was added to a nearby building and rainwater run-off had a devastating effect on the lake fauna, killing all the *Anodonta* and who knows what else (curiously, the presence of this species does not seem to have been documented but relies on anecdotal evidence, particularly from June Chatfield). It is perhaps surprising that we did find two live *Unio pictorum* (figure 7). There were only two previously recorded species that we did not find: *Planorbis carinatus* and *Acroloxus lacustris*; perhaps these may turn up on future visits. Table 2 summarises our findings.



figure 7: Live *Unio pictorum* in the Whiteknights lake.  
(photo: Imogen Cavadino)

| Key: L = live specimen.<br>S = shell only. |                 | PREVIOUS<br>WHITE-<br>KNIGHTS<br>RECORD | Harris<br>Gardens<br>SU7371 | Wilderness<br>SU7471 | In lake or<br>immediate<br>surroundings | Elsewhere | NEW<br>WHITE-<br>KNIGHTS<br>RECORD |
|--------------------------------------------|-----------------|-----------------------------------------|-----------------------------|----------------------|-----------------------------------------|-----------|------------------------------------|
| <b>TERRESTRIAL SHELLED</b>                 |                 |                                         |                             |                      |                                         |           |                                    |
| <i>Succinea putris</i>                     | Succineidae     |                                         | L                           |                      | L                                       |           | LIVE                               |
| <i>Cochlicopa lubrica</i>                  | Cochlicopidae   |                                         |                             |                      | L                                       | L         | LIVE                               |
| <i>Vallonia excentrica</i>                 | Valloniidae     |                                         | L                           |                      |                                         |           | LIVE                               |
| <i>Lauria cylindracea</i>                  | Lauriidae       |                                         |                             |                      |                                         | L         | LIVE                               |
| <i>Discus rotundatus</i>                   | Discidae        |                                         | L                           | L                    |                                         | L         | LIVE                               |
| <i>Aegopinella nitidula</i>                | Oxychilidae     | Y                                       | L                           | L                    | L                                       |           |                                    |
| <i>Nesovitreia hammonis</i>                | Oxychilidae     | Y                                       | L                           | L                    |                                         |           | LIVE                               |
| <i>Oxychilus alliarius</i>                 | Oxychilidae     |                                         | L                           | L                    |                                         |           | LIVE                               |
| <i>Oxychilus cellarius</i>                 | Oxychilidae     |                                         |                             |                      |                                         | L         | LIVE                               |
| <i>Oxychilus draparnaudi</i>               | Oxychilidae     |                                         |                             | S                    |                                         | L         | LIVE                               |
| <i>Oxychilus navarricus helveticus</i>     | Oxychilidae     |                                         | L                           |                      |                                         |           | LIVE                               |
| <i>Zonitoides nitidus</i>                  | Gastrodontidae  |                                         | L                           |                      |                                         |           | LIVE                               |
| <i>Vitrea crystallina</i>                  | Pristilomatidae |                                         |                             |                      |                                         |           | LIVE                               |
| <i>Vitrina pellucida</i>                   | Vitrinidae      |                                         |                             |                      |                                         |           | LIVE                               |
| <i>Merdigera obscura</i>                   | Enidae          |                                         |                             | L                    |                                         |           | LIVE                               |
| <i>Clausilia bidentata</i>                 | Clausiliidae    |                                         | L                           |                      |                                         |           | LIVE                               |
| <i>Hygromia cinctella</i>                  | Hygromidae      | Y                                       | L                           |                      | L                                       |           |                                    |
| <i>Monacha cantiana</i>                    | Hygromidae      |                                         |                             |                      |                                         | L         | LIVE                               |
| <i>Trochulus hispidus</i>                  | Hygromidae      |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Trochulus striolatus</i>                | Hygromidae      | Y                                       | L                           |                      | L                                       | L         |                                    |
| <i>Cepaea hortensis</i>                    | Helicidae       |                                         | S                           | L                    |                                         |           | LIVE                               |
| <i>Cepaea nemoralis</i>                    | Helicidae       |                                         | L                           |                      |                                         |           | LIVE                               |
| <i>Cornu aspersum</i>                      | Helicidae       |                                         | S                           |                      | L                                       |           | LIVE                               |
| <b>SLUGS</b>                               |                 |                                         |                             |                      |                                         |           |                                    |
| <i>Arion ater</i> agg.                     | Arionidae       | Y                                       | L                           |                      |                                         |           |                                    |
| <i>Arion circumscriptus circumscriptus</i> | Arionidae       | Y                                       |                             |                      | L                                       |           |                                    |
| <i>Arion hortensis</i>                     | Arionidae       | Y                                       | L                           |                      |                                         |           |                                    |
| <i>Arion intermedius</i>                   | Arionidae       |                                         |                             | L                    |                                         |           | LIVE                               |
| <i>Arion subfuscus</i>                     | Arionidae       | Y                                       | L                           | L                    | L                                       |           |                                    |
| <i>Ambigolimax parvipenis (nyctelius)</i>  | Limacidae       | Y                                       |                             | L                    |                                         |           |                                    |
| <i>Lehmannia marginata</i>                 | Limacidae       | Y                                       |                             | L                    |                                         |           |                                    |
| <i>Limacus maculatus</i>                   | Limacidae       | Y                                       |                             | L                    |                                         |           |                                    |
| <i>Limax maximus</i>                       | Limacidae       | Y                                       |                             |                      | L                                       |           |                                    |
| <i>Deroceras invadens</i>                  | Agriolimacidae  |                                         | L                           | L                    |                                         |           | LIVE                               |
| <i>Deroceras laeve</i>                     | Agriolimacidae  | Y                                       |                             | L                    |                                         |           |                                    |
| <i>Deroceras reticulatum</i>               | Agriolimacidae  | Y                                       | L                           |                      |                                         |           |                                    |
| <i>Boetgerilla pallens</i>                 | Boetgerillidae  |                                         | L                           |                      |                                         |           | LIVE                               |
| <i>Tandonia budapestensis</i>              | Milacidae       | Y                                       | L                           |                      |                                         |           |                                    |
| <b>FRESHWATER GASTROPODS</b>               |                 |                                         |                             |                      |                                         |           |                                    |
| <i>Viviparus viviparus</i>                 | Viviparidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Potamopyrgus antipodarum</i>            | Tateidae        |                                         |                             |                      | S                                       |           | SHELL                              |
| <i>Bithynia tentaculata</i>                | Bithynidae      |                                         |                             |                      | L                                       |           |                                    |
| <i>Physella acuta</i>                      | Physidae        |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Anisus vortex</i>                       | Planorbidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Bathymophalus contortus</i>             | Planorbidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Gyraulus albus</i>                      | Planorbidae     |                                         |                             |                      | S                                       |           | SHELL                              |
| <i>Hippeutis complanatus</i>               | Planorbidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Planorbis carinatus</i>                 | Planorbidae     |                                         |                             |                      |                                         |           |                                    |
| <i>Planorbis planorbis</i>                 | Planorbidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Acroloxus lacustris</i>                 | Acroloxidae     | Y                                       |                             |                      |                                         |           |                                    |
| <b>FRESHWATER BIVALVES</b>                 |                 |                                         |                             |                      |                                         |           |                                    |
| <i>Anodonta cygnea</i>                     | Unionidae       |                                         |                             |                      | S                                       |           | SHELL                              |
| <i>Unio pictorum</i>                       | Unionidae       |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Sphaerium corneum</i>                   | Sphaeriidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Sphaerium lacustre</i>                  | Sphaeriidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Euglesa casertana</i>                   | Sphaeriidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Euglesa milium</i>                      | Sphaeriidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <i>Euglesa nitida</i>                      | Sphaeriidae     |                                         | S                           |                      |                                         |           | SHELL                              |
| <i>Euglesa personata</i>                   | Sphaeriidae     |                                         | S                           |                      |                                         |           | SHELL                              |
| <i>Euglesa subtruncata</i>                 | Sphaeriidae     |                                         |                             |                      | L                                       |           | LIVE                               |
| <b>TOTALS</b>                              |                 | <b>16</b>                               | <b>23</b>                   | <b>14</b>            | <b>16</b>                               | <b>7</b>  | <b>40</b>                          |

table 1. The molluscs found at the different locations on Whiteknights campus, University of Reading, Conchological Society Field meeting 21–23/10/23.

| Whiteknights campus – University of Reading |                  |                     |                     |
|---------------------------------------------|------------------|---------------------|---------------------|
|                                             | previous records | 2023 findings       | new to Whiteknights |
| Terrestrial snails                          | 3                | 23 (23 live)        | 20 (20 live)        |
| Slugs                                       | 11               | 14                  | 3                   |
| Freshwater                                  | 3                | 18 (13 live)        | 17 (13 live)        |
| <b>TOTAL</b>                                | <b>16</b>        | <b>55 (50 live)</b> | <b>40 (36 live)</b> |

table 2: Results of the mollusc searches.

What can we learn from these field surveys? First, it is clear that non-calcareous sites may hold a surprising number of mollusc species; although slugs can thrive in these environments, the finding of 36 species of live shelled molluscs is very encouraging. Second, it is worthwhile to explore under-recorded sites; we have been able to increase the known number of mollusc species on this campus from 16 to 55. Third, multiple visits are necessary to obtain a reliable record of what is present; a single visit can give a ‘snapshot’ but the number of species will increase if more visits are made, particularly at different times of the year. Personally, I have rarely found live *Vitrina pellucida* before; these were numerous on my October visits (figure 8), but

were certainly not present in July, this being a species that matures in the autumn.



figure 8. *Vitrina pellucida* on 17 October 2023.

#### Acknowledgements

Thanks go to those who helped in these surveys, and to the University of Reading Grounds Department for permission to conduct the searches. Also to Professor Amanda Cunningham who facilitated the Regional Meeting in Reading where the results of this work were initially presented.

#### Reference

Holland, B. (1819) *A descriptive account of the Mansion and Gardens of White-Knights, as seat of his Grace the Duke of Marlborough*. London: W. Wilson.

## Jocelyn McGregor's enchanting snail sculptures transform Aldgate into a whimsical wonderland Mary Fane de Salis

A fascinating transformation has taken place in the heart of London's bustling Aldgate district, thanks to the enchanting snail sculptures crafted by the talented artist Jocelyn McGregor (on show until May 2024). Nestled amid the urban landscape, McGregor's whimsical creations bring a touch of the surreal to the city, inviting residents and visitors alike to pause, ponder, and appreciate the beauty found in unexpected places.

McGregor's anthropomorphic snail sculptures are not your typical garden variety. Instead, they are colossal works of art that defy expectations, seamlessly blending the natural world with an otherworldly charm. Stretching up to six feet in height, each sculpture captures the essence of these humble creatures while simultaneously transcending reality through the imaginative addition of human limbs!

Walking through Aldgate, one cannot help but be captivated by McGregor's snails, strategically placed in public spaces, parks, and unexpected corners of the district. The sculptures serve as a testament to the artist's ability to transform ordinary spaces into extraordinary realms, challenging the conventional boundaries of urban art.

What makes McGregor's snail sculptures particularly captivating is the meticulous attention to detail she invests in each piece. The snails, crafted from a combination of metal and resin, boast lifelike textures and exquisite patterns that mirror the intricate beauty of their living counterparts (with added human elements!). McGregor's dedication to authenticity ensures that these sculptures not only capture the eye but also evoke a sense of wonder and connection to the natural world.

Beyond their aesthetic appeal, McGregor's snail sculptures carry a deeper meaning. In a rapidly urbanising world, the artist encourages us to reevaluate our relationship with nature and the creatures that inhabit it. The snails, often overlooked, become the focal point of admiration and contemplation. McGregor's work prompts us to slow down,

appreciate the small things, and find beauty in unexpected places—a valuable message for city dwellers caught up in the fast-paced rhythm of urban life.

Moreover, McGregor's snail sculptures catalyse community engagement. Aldgate, once a mere intersection of urban activity, is now a canvas for shared experiences and conversations. Residents and visitors find common ground in their appreciation for McGregor's art, fostering a sense of unity and pride in their surroundings.

In conclusion, Jocelyn McGregor's snail sculptures have undeniably transformed Aldgate into a whimsical wonderland, where art and nature harmoniously coexist. Through her larger-than-life creations, McGregor invites us to rediscover the magic hidden in the every day, encouraging a renewed sense of appreciation for the beauty that surrounds us, even in the most unexpected places.



Anthropomorphic snail sculptures by Jocelyn McGregor, Aldgate, London.

# ‘50 Years of Conserving the Small Things that Run the Earth’: a celebration for Alan Stubbs at Buglife, Peterborough

Peter Topley & Martin Willing



figure 1: Alan Stubbs addressing attendees at the event at Buglife headquarters.

In the King’s Birthday Honours List for June 2023, Alan Stubbs was presented with the first MBE awarded for services to invertebrate conservation. Alan was the driving force behind the founding of the Invertebrate Conservation Trust (ICT), later given the shorter name of Buglife.

On 23<sup>rd</sup> November 2023, representatives from a wide range of conservation organisations (most associated with invertebrates), including the Conchological Society, were invited to attend an event to celebrate Alan’s award together with his numerous achievements (figures 1, 2 and 4). The ceremony was held at Buglife Headquarters in the Allia Future Business Centre in Peterborough. We attended the event on behalf of the Conchological Society which, since early 2002, has been a Buglife corporate member (Willing 2003). A small group of guest speakers including Alan as well as Matt Shardlow (Buglife CEO) gave short talks on the history of Buglife and Alan’s extensive involvement with, and championing of, invertebrate conservation.



figure 2: The authors, representing the Conchological Society at the event, with Alan Stubbs holding his MBE.

Martin was also invited to give a brief appreciation of Alan’s role in relation to molluscan conservation, highlighting his pioneering role in raising the profile of invertebrates generally, with molluscs being one key component. When working for the Nature Conservancy Council (later reorganised into three regional bodies) in 1980, Alan initiated the production of the ‘Invertebrate Site Register’

series which aimed to identify and evaluate sites of importance for the conservation of non-marine invertebrates in Great Britain. The landmark volume dealing with non-marine molluscs (Foster 1983) provided a national review of sites of significance for terrestrial and freshwater molluscs. This document, which included an early ‘red data list’, raised the profile of threatened and vulnerable mollusc species, highlighting those of conservation importance together with many of their key sites (for additional information, see footnote below). Around this time Alan also co-authored *The conservation of snails, slugs and freshwater mussels* (Kerney & Stubbs 1980), a publication well ‘ahead of its time’ which highlighted the importance of certain mollusc species (many of which are poor colonisers) as indicators of long established semi-natural habitats (such as old wetlands, pristine freshwaters and ancient woodlands) and the need for their conservation. The work also described how some molluscs are pollution-sensitive and so can act as good environmental monitoring agents (figure 3).

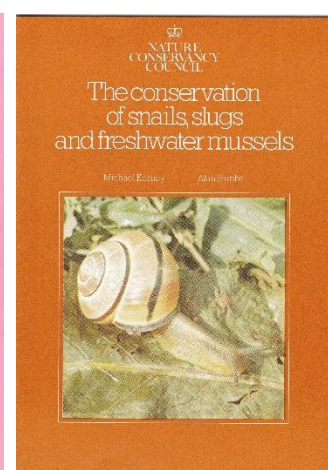
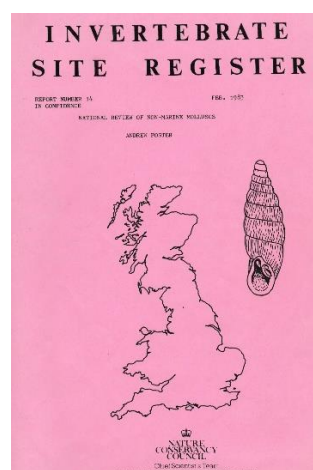


figure 3: The *Invertebrate site register* for non-marine molluscs (Foster 1983) and the snail and slug conservation booklet (Kerney & Stubbs 1980).

Both Matt Shardlow and Alan himself recounted some of the history of Buglife and Alan’s own natural history interests, including his authorship of, and contribution to, over 100 publications covering a range of insect groups including butterflies, hoverflies and soldierflies.

Alan was one of the key people who realised that for invertebrate conservation to be effective it needed a body to link and coordinate plans and actions; although there were many wildlife organisations representing single invertebrate groups, these could exert little influence in relative isolation. In the mid-1990s under the auspices of Invertebrate Link (IL: the Joint Committee for the Conservation of British Invertebrates [JCCBI]), Alan was responsible for initiating a series of three conferences (all held in Peterborough) under the banner 'Unity of Purpose'. Their underlying theme was that the study, recording and conservation of invertebrates was operating across a spread of societies and organisations with no coordination or strategic plans; without a common unifying purpose, they would have little influence.

The first 'Unity of Purpose' conference, held in 1996, raised awareness of Alan's concerns. When attendees were asked 'are we doing enough to look after invertebrates?', the clear response was 'no'! Although there was a consensus that something needed to be done, no NGO was prepared to take the lead.

A second 'Unity' conference' held in 1997 progressed issues revealing that half the attendees accepted that a new conservation-focused organisation was required. When organisations were asked if they could take on this role, none felt able to take on extra staff or expand their remit. The conference then led IL to form a committee to produce a discussion document, a 'green paper', outlining the key areas that a new invertebrate coordinating organisation might address. In 2000, following these discussions and greatly assisted by a generous legacy, the Invertebrate Conservation Trust (ICT) was established with trustees and associate members. In March 2001, at the third of Alan's conferences, this new organisation was formally launched to the entomological and invertebrate community together with an outline of the issues and tasks that it would need to tackle. The news got a warm welcome from organisations: statutory bodies, NGOs, recording societies and conservation organisations. Alan's enthusiasm, determination and capacity to bring people 'on board' had ensured the founding of the ICT. In February 2002, the first staff were appointed with Matt Shardlow as Director of Conservation. In that year the ICT also became Buglife, a name considered more understandable and memorable for public and media consumption, although the longer name was also retained to clarify the new charity's mission (Willing 2004). As the Conchological Society's Hon. Conservation Officer, Martin Willing was able to have an involvement in attending the various conferences and other meetings associated with planning for the new organisation. Following the successful Buglife launch, Alan continued to make connections and was a key player in getting numerous important conservation projects launched. Despite him being an able administrator and networker, all the speakers at the celebration event talked about Alan's love of fieldwork, this being his 'natural environment'. There were many stories of his generosity in sharing with others his immense knowledge and field skills, as well as in explaining various aspects of invertebrate ecology.

With typical modesty, Alan said of his MBE: 'It seems rather iniquitous that the award is made to one individual

when the success of an organisation is dependent on the culture, energy and skills of everyone in Buglife: staff, trustees, volunteers and supporters. I wish the MBE to be regarded as an award to them all. My sincere thanks to all who have played a part, however small, in helping Buglife to become such a firmly established and respected NGO for invertebrate conservation'.



figure 4: A small example of the wide range of people at the event. Left to right: Paul Waring (moth expert), Nigel Bourn (Chief Scientist at Butterfly Conservation), Roger Key (formerly Senior Invertebrate Officer with English Nature) and Rosy Key (also English Nature).

#### Footnotes:

**An early Buglife achievement.** A mark of Buglife's early success was to bid for and receive part government funding to bring together a wide range of invertebrate specialists to cooperate on a joint initiative. This was to compile invertebrate habitat knowledge relating to habitats on the Government's Biodiversity Action Plan. This venture resulted, in May 2004, in the publication of *Managing priority habitats for invertebrates*, which was enlarged with extra chapters in 2005 (Alexander *et al.* 2005).

**Invertebrate Site Register (ISR).** An indication of the Conchological Society's key role in the production of the non-marine ISR is given in the publication's introduction, where it is stated: 'The majority of these records were obtained from The Conchological Society of Great Britain and Ireland national recording scheme for non-marine molluscs. My thanks go to the Society and in particular to their scheme organiser, Dr M.P. Kerney, for allowing me access to the data bank. **This is the most comprehensive data bank for any invertebrate recording scheme**'. High and worthy praise!

#### References:

- Alexander, K., Archer, M., Colenutt, S., Denton, J., Falk, S., Godfrey, A., Hammond, P., Ismay, J., Lee, P., Macadam, C., Morris, M., Murray, C., Plant, C., Ramsay, A., Schulten, B., Shardlow, M., Stewart, A., Stubbs, A., Sutton, P., Telfer, M., Wallace, I., Willing, M. & Wright, R. (2005) *Managing priority habitats for invertebrates*. 2<sup>nd</sup> edn. Peterborough: Buglife – The Invertebrate Conservation Trust.
- Foster, A. (1983) *Invertebrate site register. Report no. 14: National review of non-marine molluscs*. London: Nature Conservancy Council (Chief Scientist's Team). Confidential report.
- Kerney, M. & Stubbs, A. (1980) *The conservation of snails, slugs and freshwater mussels*. Shrewsbury: Nature Conservancy Council.
- Willing, M.J. (2003) A new invertebrate organisation: Buglife – The Invertebrate Conservation Trust. *Mollusc World* 1: 22.
- Willing, M.J. (2004) Conservation News: The Launch of Buglife: The Invertebrate Conservation Trust. *Mollusc World* 4: 9.

# Conchological Society marine field meeting to the Bude area, Cornwall, April 2023

Rosemary Hill



figure 1: Hartland Quay, North Devon.

This meeting was arranged at short notice to look at various shores between Hartland Quay in North Devon and Crackington Haven in Cornwall, an area which had few records on the Society's marine database. This area had been suggested for a marine meeting many years before but this was not taken further because shores on the north coast of the Land's End Peninsula can be very exposed and it was anticipated that not many species would be found. However, this meeting showed that first impressions can be misleading. When planning the meeting, initial studies of the Ordnance Survey map and aerial views on websites revealed an often rocky coast, but this was no preparation for the scale and magnificence of the geology to be seen. Sandstones and mudstones laid down about 320 million years ago were subjected to enormous pressures during a period of tectonic plate collision 300 million years ago, resulting in spectacular folding and fracture of the rocks. From a practical point of view this became very relevant as making one's way around the shores was at times very difficult but it also provided points of shelter and overhangs that were protected from the full force of weather and wave action. Seventeen mollusc species were found live at the first shore visited, Hartland Quay (figure 1), with a further five species in weed washings and 22 species in shell grit samples, including *Lamellaria latens* and *Otina ovata*. A total of 16 species were found on the shore, mostly alive, at Black Rock, Widemouth, Cornwall (see front cover), with a further 29 species in one shell grit sample. Crackington Haven had 41 species, including *Phorcus lineatus*, *Trivia arctica* and *T. monacha* among the live species and shells of *Limatula subauriculata*, *Rhomboidella prideauxii*, and *Mangelia coarctata* in the shell sand (figures 2 to 4). Twenty-two species were found live and a further five species in samples at Duckpool, Cornwall (figures 5 and 6).



figure 2: *Phorcus lineatus* with its trail, Crackington Haven.

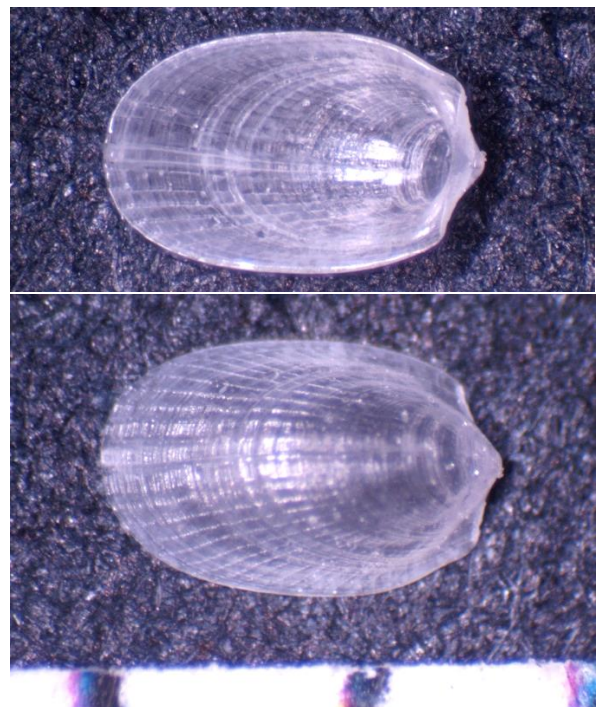


figure 3: *Limatula subauriculata*, from shell sand, Crackington Haven (scale bars = 1mm).  
(photos: Peter Topley)



figure 4: *Mangelia coarctata*, from shell sand, Crackington Haven. (photo: Peter Topley)



figure 5: Simon Taylor searching among the rocks at Duckpool.



figure 6: Red form of *Littorina littorea*, Duckpool.

Twenty-seven species were found at Welcombe Mouth, Devon, with shell sand additions including *Chauvetia brunnea*, *Parthenina interstincta* [was *Chrysallida obtusa*] and *Odostomia plicata*. Millook Haven, Cornwall, provided 20 live species including *Ocenebra erinacea* and *Leptochiton scabridus*. Although the presence of only 125 individual records on the Society's marine records database prior to the meeting suggested that the area is infrequently visited or that the site is species-poor, the meeting showed that while species abundance was low, there were worthwhile finds to be made and the number of records has now increased three-fold. This shows how useful the concentrated input of a marine field meeting can be when several participants are available to work a larger proportion of a site. The most interesting find by Simon Taylor was *Similiphora similior* at Welcombe Mouth, only its third site so far in the British Isles (figure 7).



figure 7: *Similiphora similior* found by Simon Taylor at Welcombe Mouth. (photo: Simon Taylor)

## A stained glass snail

Reading the recent obituary of Michael Kerney (*Journal of Conchology* 44 (5): 477–482), I was surprised to learn of his great interest in stained glass and can add a link between this and his conchological interests.

Isleworth in West London, where I live, benefits from having a public hall, built in Victorian times and still well used for theatricals, public talks, club meetings, pre-school, etc. To celebrate the Millenium, the 'Friends of Isleworth Public Hall' obtained a National Lottery grant and commissioned a stained glass window from the artist Rachel Mulligan to be installed in the hall. The window was duly unveiled by the Mayor of the London Borough of Hounslow on 9<sup>th</sup> December 2000. The design incorporates 'a heron, fish, the river Thames, boats, a rare snail found on Isleworth Ait and the Isleworth Cross'. The snail, seen in the bottom corners of the window, is *Pseudotrachia rubiginosa* (Rossmässler, 1838), the image being, I'm fairly certain, copied from the Kerney & Cameron 'Field Guide'. I can only wonder whether Michael knew from his stained glass connections of this window depicting a snail. There are likely to be stylised scallops in glass depicting coats of arms, or in depictions of St James the Greater, and perhaps snails featured, for example, in windows depicting St Francis or the Noah and the Flood story, but I think this is probably the only stained glass to feature a specific species of snail and the 'Field Guide' forms a likely link between the image and Michael.



Kevin Brown



Left: 'Isleworth Heron 2000' by Rachel Mulligan.  
Above: Detail of the panels featuring *P. rubiginosa*.  
(© Friends of Isleworth Public Hall, with kind permission.)



figure 1: Judith Nelson, May 2009. (photo: Jan Light)

Judith Nelson, who died in August 2023 (figure 1), was for many years an active member of both the Conchological Society of Great Britain and Ireland (CSGBI) and the British Shell Collectors Club (BSCC). She was an honorary member of both associations and had been President of the BSCC from 2013–2016.

Judith was educated at the Abbey School Malvern Wells before training as a children's nanny at Norlands College. When working as a nanny in the Chelsea area and pushing a double pram, Judith found the pavements regularly blocked and so fitted a horn to the pram handlebars. In the early 1960s, working for a military family, Judith moved to Malaysia and travelled extensively in Asia – she later regretted this was before she had an interest in shells. After a period back in the UK, Judith moved to New Zealand in 1971, helping with the young children of her brother before working her way around New Zealand.

It was in New Zealand that Judith's interest in shells began. Seeing a note on a tourist information board inviting people to view a shell collection, Judith visited and was hooked. She joined the Auckland Shell Club, maintaining her membership for years after returning to the UK, and was introduced to field collecting both on shore and from boats. In 1974 Judith took a job in Cairns, Australia, and again joined the local shell club and collected widely in Queensland. After a spell back in New Zealand she returned to the UK in 1978, promptly joining CSGBI and BSCC while still working as a nanny.

June Chatfield remembers Judith at this time working as a live-in nanny in a country house in Hampshire, which stood in substantial grounds with a lake. Judith took the children

pond dipping and set up aquarium tanks in the nursery which impressed her employers so much that she was brought into the team looking after the grounds. Judith instigated a mollusc survey, inviting June: 'No need to bring lunch, as the kitchen will provide a picnic'; it was a sumptuous meal, enjoyed by the lake.

As a member of CSGBI, Judith regularly attended field meetings, both marine and non-marine, building a British collection (figures 2 and 3). She also attended indoor meetings (figure 4) and soon took on responsibility for providing and serving refreshments during the break. She served on the Society's Council and, particularly after retirement, hosted an annual workshop at her home (figure 5). Every year on the announcement for this was a stern warning that 'Hilbre is a non-smoking property'. Similarly, at an early BSCC meeting, two members were smoking outside the hall: unfortunately the wind was blowing into the hall, and worse into the kitchen where Judith was. Judith 'stormed out' and quickly moved the offending parties.



figure 2: Judith (centre) and other attendees on a CSGBI field meeting in West Sussex, 1988. (photo: Derek Rands)



figure 3: Judith examining a fossil on the CSGBI field meeting to Blockley Quarry, Gloucestershire, 29th March 2003.

(photo: Peter Topley)



figure 4: Judith with (L-R) Bas Payne, John Llewelyn-Jones and Jan Light at a CSGBI meeting, NHM London, 27<sup>th</sup> February 2015.  
(photo: Peter Topley)



figure 5: CSGBI workshop at Judith's home, 28<sup>th</sup> November 2009.  
(photos: Peter Topley)

As a member of BSCC, Judith regularly attended annual shell shows and conventions, and some smaller get-togethers. Predictably she became involved in, and eventually ran, the catering for the meetings. For someone so proficient with a teapot it was always a surprise that she liked her own tea as weak as possible. Judith also took on running the BSCC 'bring and buy' stall, storing, transporting and selling members' unwanted shells and books. This put her in contact with many children and beginner collectors who she liked to encourage. Her non-British collection focused on southern hemisphere species, mainly self-collected, and it is regrettable that she never wrote of her antipodean collecting experiences.

Outside conchology, Judith was a member of the Marine Conservation Society and active in her local Wildlife Trust. By careful mowing, or non-mowing, she had established a colony of native orchids in her garden.

Judith enjoyed knitting, and making dolls' clothes and soft toys, which she regularly sold at craft and miniature fairs. Through these fairs she met Caroline Levitt who ran several Forest School after-school clubs. Judith was commissioned to knit earthworms (the school mascot) to be presented as prizes.

Judith also enjoyed jigsaws, and at one time collected donated puzzles from a charity shop, working them so that they could be sold as 'guaranteed' complete, the drawback being that she had no choice of the subject of the image. The worst she recalled depicted a large plateful of baked beans.

Judith was generous in giving lifts to club meetings or craft fairs. She preferred to be hands-on, always busy doing something and always friendly and cheerful, ready for a chat. She may not have left a written legacy, but she will be long and affectionately remembered.

## British Shell Collectors' Club



**Saturday 27th April 2024**

### Shell Convention

An opportunity to meet other members and to seek advice from experienced collectors. The event is well attended by dealers, and there may be members' exhibits and exchange tables, and sometimes an auction of fine specimens and books.

**Saturday 26th October 2024**

### Shell Show

- shells for sale\_• exhibits/prizes\_• dealers' tables
- all welcome – beginners to experts

Both are open 9am to 4pm      Open to the public  
Admission free      Theydon Bois Community Centre,  
Coppice Row, Theydon Bois, CM16 7ER.

**Please check web site for up to date and further information:** [www.britishshellclub.org](http://www.britishshellclub.org)

# ‘After the storm’: molluscs in beach drift and river flood debris *Peter Topley*

In early January this year, following one of the recent periods of high winds and heavy rain, I looked for shells in beach drift on the shore at Titchwell in north Norfolk and freshwater molluscs in flood debris nearer to my home in Bedfordshire. In both cases, such records can give an indication of the species present but shells may have travelled some distance from their point of origin. The north facing coast east of Thornham Point and west of the RSPB reserve of Titchwell Marsh consists of sands backed by an area of dunes separating the coast east of the Wash from the marshes behind (TF744451) (figure 1).



figure 1: Strandline on the shore west of Titchwell, north Norfolk.

Apart from shells, the strandline consisted of many strands of the bryozoan hornwrack, *Flustra foliacea*, as well as occasional accumulations of shells, including *Mytilus* and *Modiolus*, adhering together on a substrate such as rope (figure 2). Razor shells (*Ensis* spp.) were present, although not in the huge numbers often found on this coast.



figure 2: Accumulation of shells on a cast-up substrate, Titchwell.

Some of the *Mytilus edulis* were of the yellowish form with bluish rays (figure 3). Shells of the oval piddock, *Zirfaea crispata* and the non-native American piddock, *Petricolaria pholadiformis* were common. These species live in soft rock and the shells, along with some small pieces of eroded chalk, may have originated in the chalk reef which follows the Norfolk coast to the east. Amongst a relatively small species list (see below) were some very large shells of *Calliostoma zizyphinum* (figure 4).

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| <i>Cerastoderma edule</i>         | <i>Buccinum undatum</i> (+ egg cases) |
| <i>Ensis leei</i>                 | <i>Calliostoma zizyphinum</i>         |
| <i>Ensis siliqua</i>              | <i>Crepidula fornicata</i>            |
| <i>Ostrea edulis</i>              | <i>Littorina littorea</i>             |
| <i>Modiolus modiolus</i>          | <i>Neptunea antiqua</i>               |
| <i>Mytilus edulis</i>             | <i>Nucella lapillus</i>               |
| <i>Petricolaria pholadiformis</i> |                                       |
| <i>Spisula solida</i>             | <i>Fabulina fabula</i> (figure 5)     |
| <i>Venerupis corrugata</i>        | <i>Zirfaea crispata</i>               |



figure 3: Pale form of *Mytilus edulis* (length c. 45 mm), Titchwell.



figure 4 (left): Shells of *Zirfaea crispata* (lengths 62 and 70 mm). (right): Large shell of *Calliostoma zizyphinum* (height 33 mm).



figure 5: *Fabulina fabula* (length 21.2 mm).

In contrast, flood debris including shells is often left behind following the flooding of rivers and streams. The shells of both land and freshwater molluscs can be found associated with piles of plant material. Larger rivers, such as the river Ouse in Bedfordshire, can leave behind debris scattered across large parts of the flood plain. In January this year, flood debris from the Ouse at Great Barford included the shells of around 34 species, of which only 14 were freshwater (figure 6). The many land snails included fresh shells of *Vertigo pygmaea* and *Zonitoides nitidus* which are probably living locally.



figure 6: Flood debris from the river Ouse at Great Barford, Beds., which included many shells of the river snail *Viviparus viviparus* (right), some with the operculum intact, but no unionid mussels.

The flood debris left behind by smaller rivers and streams can also give a useful indication of what is present locally. The river Ivel flows north into Bedfordshire, joining the Ouse at Tempsford. Henlow Common and Langford Meadows is a 13-ha local nature reserve in Bedfordshire, comprising wet grassland and scrub. It lies beside the Ivel. Dam's Ditch, a former channel of the river and more like a small river than a ditch, runs through the site (figure 7).



figure 7: Dam's Ditch, Henlow Common and Langford Meadows LNR, TL182403, January 2024.

Shells were common in the debris deposited following recent flooding (figure 8); in the sample taken these included three (abundant) planorbid species (figure 9), both species of *Bithynia* and a worn shell of *Valvata piscinalis* (figure 10), with a total of 11 species recorded. Unusually, no shells of *Euglesa/Pisidium* were recovered although *Sphaerium corneum* shells were frequent:

*Ampullaceana balthica*, *Anisus vortex*, *Bithynia leachii*, *Bithynia tentaculata*, *Lymnaea stagnalis*, *Planorbarius corneus*, *Planorbis planorbis*, *Stagnicola* spp., *Valvata piscinalis*, *Anodonta anatina* and *Sphaerium corneum*.

Although none of the species recorded from these locations was particularly unusual or rare, it is a reminder that recording molluscs in storm/flood debris can give important information on the species that may be present (but not necessarily their precise site of origin).



figure 8: flood debris by Dam's Ditch near the river Ivel, Henlow Common and Langford Meadows LNR, January 2024.



figure 9: Left to right: *Planorbarius corneus*, *Planorbis planorbis* and *Anisus vortex*, Langford, 2024 (scale = mm).



figure 10: Left to right: *Bithynia leachii*, *Bithynia tentaculata* and *Valvata piscinalis*, Langford, 2024 (scale = mm).

## Electric razors and naked clams for tea

Kevin Brown

Two recent pieces in the national press are, perhaps, of sufficient molluscan interest to warrant notice in *Mollusc World*. Both derive from the *Daily Telegraph*.

The first article (26<sup>th</sup> June 2023) appeared under the headline 'Gang fined for electro-shocking Razor Clams'. This recounted how a fishing company, the company 'boss' and ten workers had been prosecuted for illegal electro-fishing for razor clams (*Ensis* spp.) in Cornish inshore waters. Using electricity to force the razors out of the sand enabled divers to collect a 'significantly' larger number of molluscs than would otherwise have been possible. After three years of court proceedings, initiated by the Cornish inshore fisheries and conservation authority, ten of the defendants were collectively fined more than £28,750 including costs, with sentencing of the principal defendant to follow. Apart from the size of the fines it is worth noting the method of collecting. I cannot remember reading anywhere of electricity being used in gathering shellfish. The 'efficiency' of the method may have given the

fishermen an edge in a cut-throat business, but could easily have wiped out local colonies of the target species, let alone caused collateral damage to other wildlife.

The second article (23<sup>rd</sup> November 2023), coincidentally, also related to edible molluscs. Under the headline 'Scientists to put worms on the menu', the article records how scientists at Plymouth University under the leadership of Dr Reuban Shipway are developing methods to establish a shipworm farm, the intention being to produce shipworms (presumably *Teredo navalis*) for human consumption. It is noted that 'wild shipworms are eaten in the Philippines either raw or battered and fried like calamari', and that they are nutritious but without the environmental cost of meat or fish. To make them more appealing it is proposed to market the shipworms as 'naked clams', to be used as 'a white meat substitute' in processed foods like fishfingers and fishcakes. It may be early days, but watch the list of ingredients and do not let on to the squeamish that 'naked clams' are 'worms', albeit molluscan in nature.

# The risk assessment of non-native mollusc species in Great Britain

Martin Willing

The GB Non-native Species Secretariat (NNSS) has responsibility for helping to coordinate measures relating to invasive non-native species (NNS) in Great Britain. It is responsible to a programme board which represents the relevant governments and agencies of England, Scotland and Wales.

In January 2024 the NNSS placed ten new non-native species risk assessments (RA) onto their website (<https://www.nonnativespecies.org/non-native-species/risk-analysis/risk-assessment/>). These included three molluscs: the Chinese mystery snail *Cipangopaludina chinensis* (figure 1), the Chinese pond mussel *Sinanodonta woodiana* (figures 2 and 3) and the Atlantic oyster drill *Urosalpinx cinerea* (figures 4 and 5). These three newly published RAs are available for public comment until 12<sup>th</sup> April 2024 and feedback forms can be found on the NNSS website given above.



figure 3: *S. woodiana*, juvenile.

(photo: Amgueddfa Cymru/Museum Wales)



figure 4: *Urosalpinx cinerea* shell (height 20 mm).

(photo: Anna Holmes, Amgueddfa Cymru/Museum Wales)



figure 1: *Cipangopaludina chinensis* collected on Pevensey Levels, September 2018 (shells >5 cm in height). (photo: Evan Jones)



figure 2: *Sinanodonta woodiana*, on banks of channel amongst *Nymphaea alba*, Magearu canal near Letea village, Danube Delta, Romania, August 2007 (length 170 mm). (photo: Peter Topley)



figure 5: Living *U. cinerea*, Essex.

(photo: Simon Taylor)

The publication of these new assessments presents an opportunity to provide a complete list of all currently listed molluscan non-native RAs (table 1).

RAs are used to assess the potential risk of a NNS having negative impacts in GB. There are two NNS risk assessment types; rapid risk assessments (RRA) which are intended as relatively quick responses to a newly identified potential threat and full risk assessments (RA) that provide more detail consideration. Each RA firstly gives background information on a species, together with its global and introduced ranges. For each NNS it then provides a detailed consideration of the probability of **entry**,

**establishment, spread and impact**. Each of these sections is broken down into a series of structured questions, the answers to which are linked to levels of **probability** and **confidence**. RAs also consider appropriate control and/or eradication measures for a species, together with recommendations for additional research that might help to understand a NNS better. The whole RA exercise is time consuming, involving thorough academic literature reviews to ensure that, wherever possible, all responses are evidence-based. All RAs are peer reviewed on at least two occasions before draft publications are further available for wider open-access feedback comment.

| English name          | Latin name                             | Date of publication                           | Author/s                                                                           | Additional notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|----------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Asian clam            | <i>Corbicula fluminea</i>              | <b>RRA</b><br>Sept. 2015<br>(final Apr. 2016) | Alexandra Zieritz                                                                  | This RRA requires updating as, since its publication, new populations have become established (e.g. further spread in the Thames catchment and a new population in the East Sussex River Ouse).                                                                                                                                                                                                                                                                                                                                           |
| Asian date mussel     | <i>Arcuatula senhousia</i>             | <b>RA</b><br>Feb. 2022                        | Kate Dey (Univ. of Portsmouth)                                                     | The mussel still seems to be confined to the Solent area but is likely to be spreading eastwards along Channel coasts.                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Atlantic oyster drill | <i>Urosalpinx cinerea</i>              | <b>RA</b><br>Jan. 2024                        | Hannah Tidbury (Cefas)                                                             | This is an updated RRA from 2020. The whelk was first recorded in British waters in 1927 with records centred on the Essex and north Kent coasts. The RA states that the whelk may now be spreading, with finds in north Devon, south Cornwall, south Devon, Dorset, East Sussex and East Kent suggested. These south and west coast records have not been verified by the Conchological Society and their validity is questioned. With no free-swimming pelagic stage, the rate of spread is likely to be slow without human assistance. |
| Chinese mystery snail | <i>Cipangopaludina chinensis</i>       | <b>RA</b><br>Jan. 2024                        | Martin Willing (CSGIB)                                                             | The latest RA replaces the RRA of 2020. The original population found on the Pevensy Levels seems to be contained but the recent discovery of at least three populations near Southampton means the snail is now likely to be spreading in that area.                                                                                                                                                                                                                                                                                     |
| Chinese pond mussel   | <i>Sinanodonta woodiana</i>            | <b>RA</b><br>Jan. 2024                        | John Iwan Jones (Queen Mary, Univ. of London); David Aldridge (Univ. of Cambridge) | This native of south-east Asia has yet to arrive in Britain or Ireland but as it is now widespread on the continent (including France) its arrival (as assessed by 'horizon scanning') is likely and hence the newly produced RA. Introduction of the mussel could be as glochidia larvae attached to imported live freshwater fish.                                                                                                                                                                                                      |
| Gulf wedge clam       | <i>Rangia cuneata</i>                  | <b>RRA</b><br>Apr. 2017                       | Martin Willing (CSGIB)                                                             | The RRA may need updating as a now extinct population was identified from Port Talbot. The clam does not seem to have spread since its discovery in Lincolnshire in 2015.                                                                                                                                                                                                                                                                                                                                                                 |
| Manilla clam          | <i>Ruditapes philippinarum</i>         | <b>RA</b><br>Jun. 2011                        | N. Sweet & J. Sewell (Marine Biological Association)                               | The RA may need updating due to the increasing spread of the species to areas well away from Poole Harbour where it was first introduced. Possibly negative effects of competition with native species such as <i>Ruditapes decussatus</i> .                                                                                                                                                                                                                                                                                              |
| New Zealand mud snail | <i>Potamopyrgus antipodarum</i>        | <b>RA</b><br>Apr. 2011                        | Anon.                                                                              | Now present in all British vice-counties; its impact seems to be minimal. (Alternative name: Jenkins' spire snail.)                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Pacific oyster        | <i>Crassostrea gigas</i>               | <b>RA</b><br>Sept. 2010                       | Anon.                                                                              | The RA name is now replaced with <i>Magallana gigax</i> . The oyster is now widespread around both British and Irish coasts.                                                                                                                                                                                                                                                                                                                                                                                                              |
| Quagga mussel         | <i>Dreissena rostriformis bugensis</i> | <b>RA</b><br>Apr. 2016                        | David Aldridge (Univ. of Cambridge)                                                | When this RA was written the mussel had yet to invade the UK. It is now well established and is spreading in the lower Thames catchment; recent reports indicate the colonisation of new sites elsewhere in England. Reports from the USA/Canada suggest that the quagga mussel is now widespread in some of the Great Lakes where it is causing considerable environment damage.                                                                                                                                                         |
| Rapa whelk            | <i>Rapana venosa</i>                   | <b>RA</b><br>Feb. 2011                        | N. Sweet & J. Sewell (Marine Biological Association)                               | Only one reliable live record from east of Thames estuary (outside UK territorial waters); warming seas due to climate change could see the appearance of this large predatory whelk into British coastal waters.                                                                                                                                                                                                                                                                                                                         |
| Slipper limpet        | <i>Crepidula fornicata</i>             | <b>RA</b><br>Jun. 2011                        | Anon.                                                                              | Well established in the Channel and spreading northwards with recent reports as far as Scotland.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Zebra mussel          | <i>Dreissena polymorpha</i>            | <b>RA</b><br>Sept. 2010                       | Anon.                                                                              | A well-established invasive first appearing in the 1820s. The species has stabilised or declined in many areas and appears to have been lost from Scotland.                                                                                                                                                                                                                                                                                                                                                                               |

table 1: Currently listed non-native mollusc risk assessments (**RA** = risk assessment; **RRA** = rapid risk assessment).

Over a period of years I have accumulated numerous empty shells of *Cochlicopa* from various parts of Britain, mostly on a casual basis. Many of these do not seem to be typical *C. cf. lubrica* (O.F. Müller, 1774) or *C. cf. lubricella* (Porro, 1838) as described, for example, by Kerney & Cameron (1979) or Cameron & Riley (2008). The intention had always been, one day, to look at them carefully and try to assign at least some to one or other of these two taxa. Some of the variation involved is illustrated in figures 1 and 2.



figure 1: *Cochlicopa*, Mulgrave Castle, north-east Yorkshire, NZ83921164, 26/01/2022.



figure 2: *Cochlicopa*, Rifts Wood, north-east Yorkshire, NZ66362039, 04/02/2022.

## A brief history

What follows is not intended to be a comprehensive review, merely an attempt to describe some of the relevant background. *C. cf. lubricella* was originally considered to be a variety of *C. cf. lubrica*, named var. *minima*. Mandahl-Barth (1950) investigated Danish populations of *Cochlicopa* and found evidence for its specific distinctness, his findings being summarised by Quick (1954): ‘compared with *lubrica* the shell [of *C. cf. lubricella*] is smaller, more cylindrical, with a blunter apex, and a lighter colour ... the animal is less pigmented and the penial appendage is shorter and less swollen at the end’. Quick examined British populations with similar results and reviewed the nomenclature of *C. lubrica* var. *minima* which then became *C. lubricella*. One particular value of Quick’s study is that it included raw data in the form of breadth and height measurements for several population samples although no analysis, such as calculation and comparison of means, was provided. Like Mandahl-Barth, quoted above, Quick described the shells of *C. lubricella* that he studied as smaller in both height and breadth, but no general statement was made about it being proportionately more slender (as opposed to more cylindrical). However, in what he considered to be a mixed population of sub-fossils of the two species from Holocene deposits in Oxted Quarry, Surrey, he stated that ‘the ratio of length to breadth in examples of the same length in the two [species] is greater in *lubricella* than in *lubrica*’. Two examples of this were provided (Quick 1954: 208) although some shells were considered ‘difficult to place’ in one species or the other, and it was suggested that such individuals might result from hybridisation. Quick’s raw data are considered further below.

Making its way into identification guides, Ellis (1969: 266) described the shell of *C. lubricella* as ‘on average smaller than *C. lubrica* and more slender and cylindrical’. Cameron & Redfern (1976: 26) stated that *C. lubrica* is ‘less cylindrical and is wider in proportion to its height than *C. lubricella*’, whilst Kerney & Cameron (1979: 62) described *C. lubricella* as ‘relatively more slender and more cylindrical in shape’ (their italics).

Subsequently, Outiero *et al.* (1990) studied both the anatomy of the male genitalia and shell morphology of population samples of *Cochlicopa* from north-west Spain. They found much variation in anatomy and considerable overlap in shell height, breadth and height/breadth ratio between populations and concluded that *C. lubrica* and *C. lubricella* should not be considered separate species. Other investigations of reproductive anatomy have confirmed that it is not a reliable way of distinguishing between the two (Armbruster 1997 and references therein).

Gittenberger & Bakker (1992) investigated populations of *Cochlicopa* in sand dunes to the north of The Hague. Here, they measured samples from pitfall traps set primarily to analyse the distribution of arthropods. This method was of particular value in that it meant the samples were collected from very localised areas. It was found that shells fell into three size categories with respect to breadth, with means which they expressed as 31/16, 33/16 and 36/16 mm (1.94, 2.06 and 2.25 mm respectively). This investigation is of interest because it took into account the time dimension: repeat sampling revealed that the populations remained stable with respect to breadth throughout the five years

during which the study was conducted. (At one sample site, two of the size categories were said to co-occur but it was not made clear how these were distinguished from one another apart from by the factor being measured, i.e. shell height. As three pitfalls were set at each site, 10 m apart, then perhaps the two size categories occurred in different traps. Alternatively, at this site, did shell height have a bimodal distribution?)

Studying populations in Germany, Armbruster (1995) carried out both multivariate and univariate analyses of population samples allocated to one or other taxon in advance. Multivariate analysis (simultaneous comparison of four shell measurements using canonical discriminant analysis) provided a very reliable way of distinguishing between the two. However, univariate analysis proved almost as useful, involving the straightforward comparison of shell breadth: only 2% of *C. lubrica* had a shell breadth of less than 2.3 mm with 10% of *C. lubricella* having a breadth over 2.19 mm (n = 205), in contrast to the findings of Outeiro *et al.* (1990). This investigation by Armbruster did not involve comparison of the height/breadth ratio as a means of trying to distinguish between the two taxa.

Subsequently Armbruster (1997) carried out molecular studies on *C. lubricella*, the results indicating that there were two distinct genetic strains in the populations sampled. These were designated types 1 and 2. Significantly, type 1 was found to be genetically indistinguishable from *C. lubrica* with the conclusion that it should be interpreted as a small and slender form of this species. Type 2 *C. lubricella* was genetically distinct. On some occasions each of type 1 and type 2 were found to co-occur with *C. lubrica*. Types 1 and 2 were not observed together at any of the localities studied but it was suggested that this may have been simply a consequence of small sample size. Armbruster (2001) went on to investigate variation in allozyme frequencies between populations of *Cochlicopa* from different habitat types, noting that the data indicated a very high level of self-fertilisation. Thus, when attempting to identify shell samples, these may well contain individuals belonging to one or more clone lines, within and between which there is little gene flow. Hence hybridisation, as suggested by Quick (1954), may not be of significance in producing intermediate forms.

With respect to *Cochlicopa* in the British Isles, Anderson (2005: 626) stated, 'it is likely that both *C. lubrica* and *C. lubricella* occur in Britain and Ireland, but the usual distinguishing features, shell size and habitat preference, are probably unreliable. For these reasons the species are listed as *C. cf. lubrica* and *C. cf. lubricella* in recognition of the unreliable nature of the relationship between shell morphology and the biological species'. Nomenclature and recording currently remain on this basis (Anderson & Rowson 2020). On the Conchological Society website, in the section 'Identifying common British garden snails: *Cochlicopa* species', it is stated that: 'As a 'rule of thumb', if breadth divided by height is less than 0.43 then it is probably *C. cf. lubricella*. If it is greater than 0.43 then it is probably *C. cf. lubrica*' (accessed 30/11/2023).

How might all of this apply in practice when trying to put a name to shells?

### Some population samples

Table 1 contains data for the three largest population samples which I have obtained, each collected from a different habitat and each from a restricted area of just a few square metres at most. The Iona sample is from dune backs at the north end of the island (Traigh an t-Suidhe). The Mulgrave Castle sample is from the top of a mortared curtain wall about 1 m tall on the inner side, with a partial covering of moss and leaf litter. The castle is a well maintained ruin in the midst of commercially managed ancient semi-natural woodland near to Whitby, north-east Yorkshire. The sample from Rifts Wood was extracted from leaf litter, predominantly beech, from beside a spring in this, another ancient semi-natural woodland near Saltburn-by-the-Sea, north-east Yorkshire.

Quick (1954) provided two raw data sets (shell heights and breadths), one each for what he considered to be *C. lubrica* (from Sonning, Berkshire) and *C. lubricella* (from Donhead St Mary, Wiltshire). He also included measurements of ten topotypes of *C. lubrica* from Frederiksdal, Denmark, that had been loaned to him by Mandahl-Barth. These three data sets were processed and included in table 1 for comparison. Frequency distributions of shell height/breadth ratio for all six data sets are provided in table 2.

| Locality                                        | Iona                           | Mulgrave Castle                | Rifts Wood                     | Sonning <sup>1</sup>          | Donhead St Mary <sup>1</sup>  | Frederiksdal Denmark <sup>1</sup> |
|-------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-----------------------------------|
| Grid Ref.                                       | NM290261                       | NZ83921164                     | NZ66362039                     | -                             | -                             | -                                 |
| Date of Collection                              | 08/07/2009                     | 26/01/2022 & 23/03/2022        | 09/12/2021 & 04/02/222         | 08/04/1953                    | 14/4/1952                     | 11/10/194                         |
| Sample Size                                     | 25                             | 18                             | 21                             | 21                            | 24                            | 10                                |
| Mean Height (mm)<br>± S.D. [range]              | 4.62 ± 0.042<br>[4.3 - 5.1]    | 4.92 ± 0.054<br>[4.55 - 5.20]  | 5.65 ± 0.067<br>[5.0 - 6.2]    | 6.36 ± 0.074<br>[5.9 - 7.2]   | 4.96 ± 0.042<br>[4.5 - 5.4]   | 5.86 ± 0.134<br>[5.0 - 6.5]       |
| Mean Breadth (mm)<br>± S.D. [range]             | 2.08 ± 0.021<br>[2.0 - 2.4]    | 2.14 ± 0.030<br>[2.0 - 2.45]   | 2.45 ± 0.020<br>[2.2 - 2.5]    | 2.73 ± 0.023<br>[2.5 - 2.9]   | 2.23 ± 0.018<br>[2.1 - 2.4]   | 2.51 ± 0.041<br>[2.3 - 2.7]       |
| Mean Height/Breadth<br>± S.D. [range]           | 2.23 ± 0.019<br>[2.09 - 2.40]  | 2.31 ± 0.022<br>[2.08 - 2.40]  | 2.31 ± 0.020<br>[2.16 - 2.46]  | 2.33 ± 0.022<br>[2.17 - 2.54] | 2.23 ± 0.019<br>[2.05 - 2.43] | 2.33 ± 0.033<br>[2.17 - 2.50]     |
| Mean W3/Br x 100<br>± S.D. [range] <sup>2</sup> | 46.86 ± 0.440<br>[42.9 - 50.0] | 45.63 ± 0.709<br>[39.6 - 50.0] | 45.87 ± 0.349<br>[42.0 - 48.0] | -                             | -                             | -                                 |

table 1: Population samples of *Cochlicopa*.

<sup>1</sup> = Calculated from raw data in Quick (1954). <sup>2</sup> = Width of last whorl but three/breadth x 100 (for Mulgrave Castle n = 16).

| Height<br>/Breadth | Site |                    |               |                    |         |              |
|--------------------|------|--------------------|---------------|--------------------|---------|--------------|
|                    | Iona | Mulgrave<br>Castle | Rifts<br>Wood | Donhead<br>St Mary | Sonning | Frederiksdal |
| 2.05 - 2.09        | 2    | 1                  | -             | 3                  | -       | -            |
| 2.10 - 2.14        | 3    | -                  | -             | 2                  | -       | -            |
| 2.15 - 2.19        | 5    | 1                  | 3             | 5                  | 3       | 1            |
| 2.20 - 2.24        | 6    | 3                  | 2             | 3                  | 2       | 1            |
| 2.25 - 2.29        | -    | 2                  | 3             | 6                  | 2       | 2            |
| 2.30 - 2.34        | 6    | 1                  | 5             | 2                  | 5       | 2            |
| 2.35 - 2.39        | -    | 9                  | 5             | 2                  | 2       | 1            |
| 2.40 - 2.44        | 3    | 1                  | 1             | 1                  | 5       | 2            |
| 2.45 - 2.49        | -    | -                  | 2             | -                  | 1       | -            |
| 2.50 - 2.54        | -    | -                  | -             | -                  | 1       | 1            |

table 2: Height/breadth frequency.

Pair-wise comparisons of shell heights, breadths and height/breadth ratios for the Iona, Mulgrave Castle and Rifts Wood samples indicate statistically significant differences (table 3). The Mulgrave Castle shells are significantly shorter and narrower than those from Rifts Wood but very similar in height/breadth ratio (i.e. smaller but similar in proportion). The Iona shells are significantly shorter than the other two samples, significantly narrower than those from Rifts Wood but not those from Mulgrave Castle. The Iona shells, although the shortest, are proportionately less slender than either of the other two samples (figure 3).

| Measurement          | Sites compared                | t     | P             |
|----------------------|-------------------------------|-------|---------------|
| Shell Height         | Iona vs Mulgrave Castle       | 4.45  | < 0.0001      |
|                      | Iona vs Rifts Wood            | 13.44 | < 0.0001      |
|                      | Mulgrave Castle vs Rifts Wood | 8.29  | < 0.0001      |
| Shell Breadth        | Iona vs Mulgrave Castle       | 1.85  | 0.072 (n.s.)  |
|                      | Iona vs Rifts Wood            | 12.44 | < 0.0001      |
|                      | Mulgrave Castle vs Rifts Wood | 8.61  | < 0.0001      |
| Shell Height/Breadth | Iona vs Mulgrave Castle       | 2.61  | 0.0126        |
|                      | Iona vs Rifts Wood            | 2.96  | 0.0049        |
|                      | Mulgrave Castle vs Rifts Wood | 0.22  | 0.8271 (n.s.) |

table 3: Statistical comparisons (unpaired two-tailed t tests); n.s. = no significant difference.

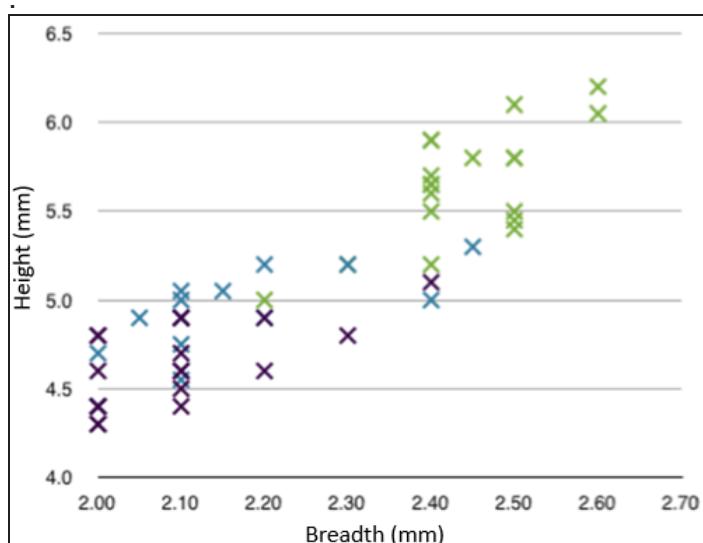


figure 3: Scattergram, shell height and breadth. X = Iona; X = Mulgrave Castle; X = Rifts Wood.

Interesting though they may be as an indication of variation between populations, mean differences, even if statistically significant, are not particularly helpful when attempting to distinguish between morphological types. Ranges of measurements, specifically any lack of (or minimal) overlap in any particular parameter, are of much more use. With respect to the data under consideration here (tables 1 and 2), the following points are relevant:

- Quick's data for *C. lubrica* (Sonning) and *C. lubricella* (Donhead St Mary) show no overlap in the range of either shell height or breadth. However, the ranges of both height and breadth of the *C. lubrica* sample from Frederiksdal do overlap Quick's data set for *C. lubricella* (tables 1 and 2).
- The range of shell heights for the Iona and Mulgrave Castle samples correspond to those for Quick's *C. lubricella* sample, whilst the Rifts Wood sample has an intermediate range between his samples for the two putative species but similar to the *C. lubrica* sample from Frederiksdal.
- The ranges of breadths for the Iona, Mulgrave and Rifts Wood samples are all comparable to Quick's *C. lubricella* sample. All three overlap the lower end of the range of the Frederiksdal *C. lubrica* sample.

Quick (1954) provided three more data sets, each of which he considered to be from mixed populations of the two species (these from Chazey Wood, Caversham, Oxfordshire; Box Hill, Surrey; and Holocene sub-fossil shells from Oxted Quarry, Surrey). In summary, these again show variation in range of shell height and breadth between populations and overlap, especially in shell height, between the two proposed species; the overlap in shell breadth being much the lesser with a boundary at about 2.3 mm. Quick (1954) did acknowledge this overall variability, stating, for example, 'a sample from Goleen, Mid-Cork, flood debris, contains nine *lubrica*, six *lubricella* and three doubtful'.

Armbruster (1995) found little overlap in shell breadth, also with a boundary approximating to 2.3 mm. Applying this to my samples would mean that all three might be considered mixed populations. But as noted above, Outeiro *et al.* (1990) found overlap in breadth of the populations studied (and also in shell height and height/breadth ratio).

Concerning proportionate rather than absolute width, often said to be less in *C. cf. lubricella*, there is considerable overlap in range of height/width ratio for all six population samples (tables 1 and 2). Moreover, the *C. lubricella* sample from Donhead St Mary is proportionately less slender than the *C. lubrica* samples from both Sonning and Frederiksdal, the mean differences being statistically significant (unpaired two-tailed t-test: Donhead vs Sonning  $t = 3.56$ ,  $P = 0.00092$ ; Donhead vs Frederiksdal  $t = 2.87$ ,  $P = 0.0072$ ).

The suggested boundary for breadth/height of 0.43 on the CSGBI website equates to one of 2.33 for height/breadth, the latter way of expressing proportion having been used by Outeiro *et al.* (1990). Either way this is expressed, it would mean that all six populations under consideration, again, should be considered as mixed (table 2). If this were the case, then data for mixed populations might be expected to show a bimodal distribution. No emerging trend in this direction is evident in table 2 but much larger samples would be needed to clarify this point.

Outeiro *et al.* (1990) included data for six populations of *Cochlicopa*, all of which would similarly be considered as

mixed on this basis. The next three largest samples that I have are made up of just five or six individuals each and yet, even for these, the same holds true in two cases (table 4) and for the third (from Lang Scar, Malham) shell breadth straddles the boundary of 2.3 mm described above.

| Locality                | South Stoke Marsh Oxon. | Rievaulx Terrace NE Yorks. | Lang Scar, Malham Mid W Yorks. |
|-------------------------|-------------------------|----------------------------|--------------------------------|
| Grid Ref.               | SU59388375              | SE578847                   | SD886653                       |
| Sample Size             | 5                       | 6                          | 5                              |
| Collection Date         | 15/05/2023              | 30/08/2000 & 06/05/2011    | 02/08/2004                     |
| Range in height (mm)    | 4.9 - 6.7               | 4.2 - 5.8                  | 4.0 - 5.7                      |
| Range in breadth (mm)   | 2.35 - 2.8              | 1.9 - 2.5                  | 2.2 - 2.5                      |
| Range in height/breadth | 2.04 - 2.41             | 2.12 - 2.50                | 2.11 - 2.32                    |

table 4: Some smaller samples of *Cochlicopa*.

Finally, the shell spire of *C. cf. lubricella* is often described as more cylindrical and *C. cf. lubrica* as more conical (see above). In order to investigate this, a measure of the degree of departure from a logarithmic spiral would be useful. For my three larger samples (table 1) this was done by measuring the width of the third last whorl (figure 4) and applying the simple formula width 3rd last whorl/ shell breadth x 100. For all three samples the means and ranges of this measure are closely similar, showing no separation in this respect.

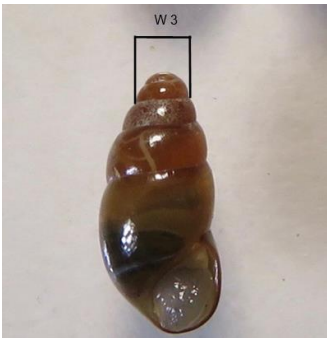


figure 4: *Cochlicopa*, showing width of third last whorl.

**Acknowledgements**

I am grateful to Ben Rowson, National Museum Cardiff, for help in obtaining copies of two papers relevant to this article. Moira, my

wife, accompanied me on every occasion when the shells described in this article were collected. I am ever grateful to her for her help, patience and company on these ventures.

**References**

Anderson, R. (2005) An annotated list of the non-marine Mollusca of Britain and Ireland. *Journal of Conchology* **38**: 607–637.

Anderson, R. & Rowson, B. (2020) *An annotated list of the non-marine Mollusca of Britain and Ireland*. Available as a PDF from <https://conchsoc.org>. (News and Publications, Bulletins section).

Armbruster, G. (1995) Univariate and multivariate analyses of shell variables within the genus *Cochlicopa* (Gastropoda: Pulmonata: Cochlicopidae). *Journal of Molluscan Studies* **61**: 225–235.

Armbruster, G. (1997) Evaluations of rapid markers and allozyme patterns: evidence for morphological convergence in the morphotype of *Cochlicopa lubricella* (Gastropoda: Pulmonata: Cochlicopidae). *Journal of Molluscan Studies* **63**: 379–388.

Armbruster, G. (2001) Selection and habitat-specific allozyme variation in the self-fertilizing land snail *Cochlicopa lubrica* (O.F. Müller). *Journal of Natural History* **35**: 185–199.

Cameron, R.A.D. & Redfern, M. (1976) *British Land Snails*. London: Academic Press for the Linnaean Society of London (Synopsis of the British Fauna (New Series) 6).

Cameron, R. & Riley, G. (2008) *Land Snails in the British Isles*. 2nd edn. Telford: Field Studies Council.

Ellis, A.E. (1969) *British Snails*. 2nd edn. Oxford: Oxford University Press.

Gittenberger, E. & Bakker, K. (1992) Five years collecting *Cochlicopa* (Gastropoda, Pulmonata, Pupillacea): stability in shell size and microgeographical distribution. In: F. Giusti & G. Manganelli (eds), *Abstracts of the 11th International Malacological Congress Siena, 1992*. . Siena: Unitas Malacologica.

Kerney, M.P. & Cameron, R.A.D. (1979) *A Field Guide to the Land Snails of Britain and North-west Europe*. London: Collins.

Mandahl-Barth, G. (1950) Danske Landsnægl. *Flora og Fauna Silkeborg* **56**: 85–90.

Outeiro, A., Mato, S., Riballo, I. & Rodríguez, T. (1990) On *Cochlicopa lubrica* (Müller, 1774) and *Cochlicopa lubricella* (Porro, 1837) (Gastropoda: Pulmonata: Cochlicopidae) in the Sierra de O Courel (Lugo, NW Spain). *Veliger* **33**: 408–415.

Quick, H.E. (1954) *Cochlicopa* in the British Isles. *Proceedings of the Malacological Society of London* **30**: 204–213.

**Yellow Arion**

*Adrian T. Sumner*

Jane Thomas’s interesting article on colour variation in *Arion hortensis* (Thomas 2023) reminded me that yellowish variants are not particularly unusual in *Arion* spp. The larger *Arion* species (*A. ater* agg.) are notoriously variable, and *A. intermedius* is commonly pale yellow. However, other *Arion* species may also have yellow variants and although these are seldom mentioned in field guides, their existence is well recorded in the older literature (Ellis 1969; Quick 1960; Taylor 1905–6). As well as *A. hortensis*, yellow variants can be found, for example, in *A. subfuscus* (figure 1) and *A. owenii* (figure 2). My first yellow *A. owenii* was confirmed by the late Stella Davies. Ideally yellow specimens should be dissected to confirm their identity, although they can often be identified with some confidence on external features, such as body size and the coarseness of the tubercles.

**References**

Ellis, A.E. (1969) *British Snails*. 2nd edn. Oxford: Oxford University Press.

Quick, H.E. (1960) British slugs (Pulmonata: Testacellidae, Arionidae, Limacidae). *Bulletin of the British Museum (Natural History), Zoology Series* **6**: 105–226.

Taylor, J.W. (1905–6) *Monograph of the land and freshwater Mollusca of the British Isles*. Parts 11–12. Leeds: Taylor Brothers.

Thomas, J. (2023) Colour variation in *Arion hortensis*: a breeding experiment. *Mollusc World* **63**: 14–17.



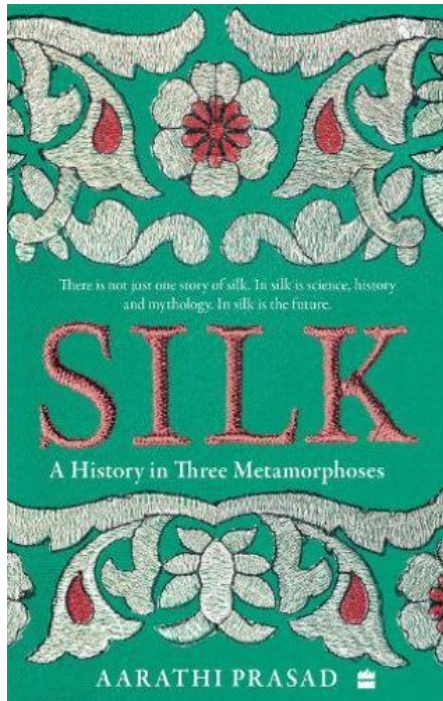
figure 1: Yellow variant of *Arion subfuscus*.



figure 2: Yellow variant of *Arion owenii*.

## Book review: *Silk – a History in Three Metamorphoses* by Aarathi Prasad

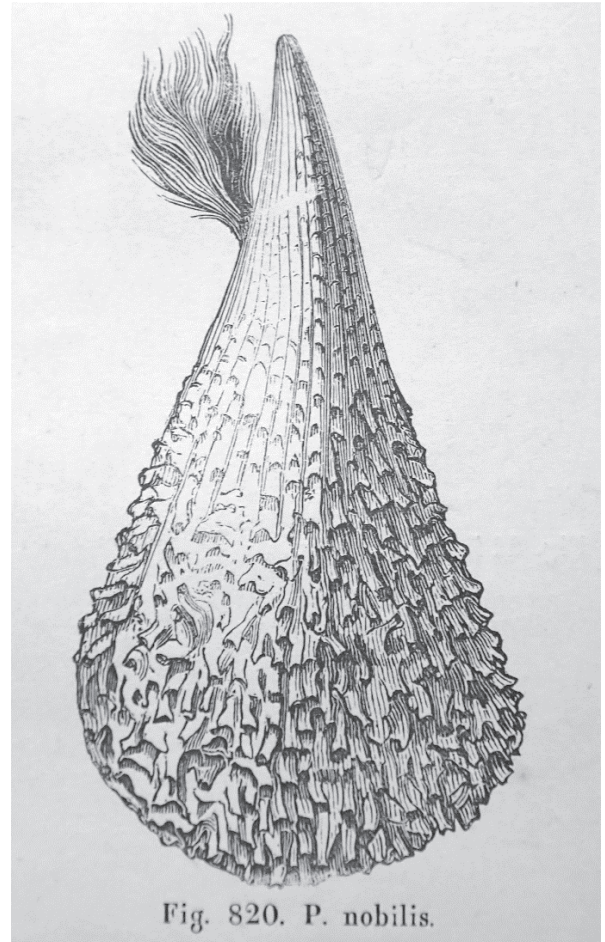
HarperCollins, London 2023, ISBN 9780008451844, 359 pages. Price approx. £10–£13.00



According to the publisher's information, the author of this book, Aarathi Prasad, has an interest in 'the intersection of science and technology with cultures, history, health and the environment'. This certainly comes across in the present volume, which will be of interest to many conchologists as it includes five chapters devoted to silk derived from the byssus of the Mediterranean pen shell, *Pina nobilis*. The overall focus of the book is, perhaps naturally, on silk produced by moths (including *Bombyx mori* and the Saturniidae family) and the cultural and historical development of the silk industry throughout the world, from ancient China through to modern day scientists investigating new uses of silk as a potential replacement for hydrocarbon-based polymers in applications from bullet-proof vests, to medicine and packaging. A fascinating portion of the book is devoted to the attempts over many years to harness the silk produced by spiders, with its properties of high tensile strength, elasticity and softness.

Back in 1982, Stella Turk, in the forerunner of this magazine, the *Conchologists' Newsletter* (85: 39–42), entitled an article on this subject 'The silk worm of the sea, spinner of Cloth of Gold'. She called the originator of this silk '*Pinna fragilis*', but this is the species found in our own waters (now known as *Atrina fragilis*) and not *Pinna nobilis* which is the focus in the present volume. The first two book chapters on this subject cover the early history of 'sea-silk', including the very rare discovery of a surviving fragment of fabric woven from the byssus of *Pinna nobilis* in the ruins of Pompei, and how early knowledge of this legendary fine copper-coloured cloth spread far from its Mediterranean origins. The following two chapters describe a historical centre of *Pinna* silk weaving and manufacture on the island of Sant'Antioco, off south-west Sardinia, its description in the early 20<sup>th</sup> century by the photographer Vittoria Alinari, the weaving school run on the island by Italo Diana, and the 'Byssus Ichnusa Society for the promotion of sea-silk' founded in 1908! The fishing from the sea of 20,000 to 30,000 *Pinna nobilis* each year in the 1920s (primarily

for their meat, but also for obtaining the byssus), producing just 30 to 40 kg of silk (enough for no more than 15 to 20 pieces of clothing) is a depressing statistic. The fifth chapter describes the recent decline of many remaining *Pinna nobilis* populations through possible bacterial/viral infections, pollution and environmental disturbance, and the consideration of other species as alternative sources of sea-silk, such as *Pinna rudis* and the Indo-West Pacific *Atrina pectinata*.



*Pinna nobilis* Linnaeus, 1758. (Chenu, J.C. (1862) *Manuel de Conchyliologie...* Vol. 2. Victor Masson, Paris.)

I would recommend this well written, interesting and informative book to anyone interested in one of nature's most fascinating 'productions' which is only now beginning to reveal potential uses in a world searching for more environmentally friendly replacements for many of the materials we use.

Coincidentally, while I was reviewing this book, our member David Harfield sent me a cutting from the 'i' newspaper of 12<sup>th</sup> December 2023 which reported a big increase in numbers of *Pinna nobilis* off the coast of Croatia, following their decimation by a pathogen similar to that which had contributed to the decline in Italian populations. One hundred juvenile specimens from this population have been collected and are being nurtured in pathogen free aquaria (see also: <https://www.reuters.com/world/europe/clam-makes-comeback-extinction-off-shores-croatia-2023-12-08/>).

*Peter Topley*

# Wet seepage sampling for non-marine micro-molluscs – is consistency possible?

Rosemary Hill

For several years, I have been looking at wet seepage areas in the Wyre Forest, Worcestershire. This began at a time when I was not certain how many field meetings I might get to, so taking leaf litter samples facilitated collection and rapidly proved an essential part of obtaining a decent list of species. The Wyre Forest is a large area of mainly acid ancient semi-natural woodland with a lot of oak, birch, bracken and heathy areas which is designated a National Nature Reserve, but some of its wet seepages are base-rich or deposit tufa and can support a wider range of molluscs. Some flushes support species scarce in the area, such as *Leiostylia anglica* (English chrysalis snail) (figure 1), *Spermodea lamellata* (plaited snail) (figure 2), *Acicula fusca* (point snail) (figure 3) and *Vertigo antvertigo* (marsh whorl snail).



figure 1: *Leiostylia anglica* (height c. 3.5 mm).



figure 2: *Spermodea lamellata* (width c. 2.1 mm).

While taking one sample of leaf litter from a wet seepage will turn up some of these species some of the time, other samples are less productive. So a range of questions arises. Was the sample taken after heavy rain or a flood and the species swept away, or had they moved to avoid a flood? Was the sample taken from too wet or too dry an area? Does the supposed flush dry up in the summer and so is unsuitable for some species? Is base-rich tufa deposition essential? Is supposed historic lack of disturbance a factor? Is shading essential for some species? Could time of year affect which species are found?

In February 2023 the opportunity to visit some of these flushes on a preliminary planning meeting in Shelf Held Coppice was too good to miss. This project forms a small part of a project aiming to map all the flushes and record their vegetation. Litter samples were taken from two flushes, one of which was close to *Sphagnum* bog moss and the other with *Palustriella commutata* (curled hook moss) which is associated with tufa deposition. The first flush had just two mollusc species, *Nesovitreia hammonis* (rayed glass snail) and *Aegopinella pura* (clear glass snail) and the second had eight species, including *L. anglica* and *S. lamellata*. Given the size of the first site, it is possible that I sampled at a less favourable point and so would more samples have been useful?

Later in the year the opportunity arose to sample in the Great Bog of Wyre (a great place, but not a particularly large one, in New Parks) so I took samples in small ziplock bags from the top and close to the bottom of the site, near to trickling water where tufa had been deposited, but avoiding areas with a higher flow of water. Where samples were taken was influenced by the distribution of litter deposits. After drying and sieving the samples using 4, 2 and 0.5 mm mesh sizes, the sieve contents were examined under a binocular microscope and any snails identified. The wettest sites included freshwater species: *Galba truncatula* (dwarf pond snail), *Potamopyrgus antipodarum* (Jenkins' spire snail) and *Euglesa personata* (crusted pea mussel). Two of the sites had *V. antvertigo* and one site had *A. fusca*. There was no sign of *L. anglica* or *S. lamellata*. A repeat visit was arranged to take a second set of samples at less wet points without clear signs of tufa deposition but within easy reach of calcareous deposits. There was a range of plant species across the samples. These samples contained none of the scarce molluscs, with *N. hammonis* and *A. pura* being the most frequent species. All the samples taken from the Great Bog were in relatively open areas, suggesting that some of the scarcer species not found might have a requirement for shade.

On the joint field meeting with the Conchological Society in October 2023, there was an opportunity to revisit some of the flush sites from the first meeting and to re-sample them from different points. This meeting happened the day after Storm Babet, which meant that water flows were high and the risk of small molluscs being washed out of the flushes would be increased. At the first flush I sampled at a clump of *P. commutata*, well away from the *Sphagnum*. The total number of species was increased to ten, with *V. antvertigo* and *A. fusca* present. There was every indication that these species had coped with exceptional water flow. I then sampled two sites at the second flush, which stretches along a valley side for a considerable distance. At the first site, there was a mixture of the grasses *Brachypodium sylvaticum* (false-brome, prefers higher pH conditions) and *Molinia caerulea* (purple moor-grass, prefers low pH conditions) with a patch of *Carex flacca* (glaucous sedge), so I was intrigued by the indication of mixed conditions regarding soil pH. *Zenobiellina subrufescens* (brown snail), a species

characteristic of old broadleaved woodlands, was found on a shrub nearby. This sample contained five species more likely to be found in neutral conditions, including *Euconulus alderi*, *A. pura* and *Aegopinella nitidula* (waxy glass snail), but also *N. hammonis* and *Columella aspera* (one of the hive snail species) which can tolerate more acid conditions. Another sample was taken in contrast from a shaded site with a rivulet that was depositing tufa where seven molluscs were found, but only as shells except *A. nitidula*, *A. pura*, *Discus rotundatus* (round snail), *Euglesa* sp. (pea mussel), *E. alderi* and *Carychium tridentatum* (slender herald snail) and nothing exceptional. This indicates that tufa deposition is not a prerequisite for the less common species.

I hope that obtaining samples from additional flushes in the future will clarify which factors are important in the distribution of the species found. My preliminary conclusion is that one sample per flush is only likely to be adequate if the flush is small and uniform. Population dynamics of individual species and the season may also be important. Only when more sites have been sampled will any trends be clarified and it may be the case that a full picture of the molluscs present in these flushes may not be attainable.



figure 3: *Acicula fusca* (height c. 2.4 mm).

#### Acknowledgements

Thanks are due to Rosemary Winnall, John Bingham, Mags Cousins, Graham Hill, John Iles and all those who also assisted with finding molluscs in the field.

A version of this article was published in Wyre Forest Study Group Review for 2023.

All photos were taken by the late Ron Boyce.

## Some key Conchological Society contacts

(see web site [<http://www.conchsoc.org/pages/contacts.php>] for additional contact details)

Please note that some contacts will change after the 20<sup>th</sup> April AGM

– please see website or July 2024 issue of *Mollusc World* for any updates



The  
Conchological  
Society  
of Great Britain & Ireland

HON. PRESIDENT: Tom Walker,  
38 Redlands Road, Reading, RG1 5HD.  
Email: [president@conchsoc.org](mailto:president@conchsoc.org)

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

HON. TREASURER: Brian Goodwin  
44 Amber Crescent, Walton, Chesterfield, Derbyshire,  
S40 3DH. Email: [treasurer@conchsoc.org](mailto:treasurer@conchsoc.org)

HON. EDITOR OF THE JOURNAL OF CONCHOLOGY  
Anna Holmes, Amgueddfa Cymru/National Museum Cardiff,  
Dept. Biodiversity & Systematic Biology, Cathays Park, Cardiff,  
CF10 3NP. Email: [journal@conchsoc.org](mailto:journal@conchsoc.org)

HON. EDITOR OF MOLLUSC WORLD: Peter Topley  
The Rectory, 8 Rectory Close, Clifton, Shefford, Beds.,  
SG17 5EL Email: [magazine@conchsoc.org](mailto:magazine@conchsoc.org)

MEETING PROGRAMME compiled by: Martin Willing  
14 Goodwood Close, Midhurst, Sussex, GU29 9JG.  
Email: [martinjwilling@gmail.com](mailto:martinjwilling@gmail.com)

**FOR BACK NUMBERS OF CONCH. SOC. PUBLICATIONS**

please apply to: Tom Walker Email: [sales@conchsoc.org](mailto:sales@conchsoc.org)

#### RECORDING

HON. MARINE CENSUS RECORDER: Simon Taylor  
Fiddlesticks, 44 Strawberry Lane,  
Tolleshunt Knights, Essex, C05 0RX.  
E mail: [marine@conchsoc.org](mailto:marine@conchsoc.org) Phone: 01621 810141

HON. NON-MARINE CENSUS RECORDER: Ben Rowson  
Amgueddfa Cymru/National Museum Cardiff, Dept.  
Biodiversity & Systematic Biology, Cathays Park, Cardiff,  
CF10 3NP. Email: [nonmarine@conchsoc.org](mailto:nonmarine@conchsoc.org)

HON. CONSERVATION OFFICER  
Mags Cousins E mail: [conservation@conchsoc.org](mailto:conservation@conchsoc.org)

#### SUBSCRIPTIONS and MEMBERSHIP

Please send subscriptions or directly related enquiries to  
Catherine Jagger, CIRCA subscriptions, 14 St Barnabas  
Court, Cambridge CB1 2BZ. Email:  
[shellmember@gmail.com](mailto:shellmember@gmail.com)

For general membership enquiries please contact: -  
HON. MEMBERSHIP LIAISON OFFICER: Pat Robbins  
125 East Lane, West Horsley, Leatherhead, KT24 6LJ.

## Diary of Meetings **Field meetings** (Indoor meeting details can be found on the back cover)



Specific meeting arrangements and any changes will appear on the Society website which Society Members are advised to visit regularly. It is essential for those wishing to attend ANY of the field meetings, to contact the leader in advance (ideally at least a few days before) to book a place and obtain further details.

### **Saturday 13<sup>th</sup> April 2024. FIELD MEETING (non-marine): Hampsstead Heath, London**

#### **Joint meeting with the London Natural History Society**

**Leader:** Liz Andrew (LNHS) Contact: June Chatfield ([drjunechatfield@gmail.com](mailto:drjunechatfield@gmail.com); 01420 82214) or Tom Walker ([tom@tmwalker.co.uk](mailto:tom@tmwalker.co.uk); 07488-231-574) for further information. The purpose of this visit is to try to obtain an up-to-date list of the molluscs which now live on the Heath. A variety of habitats will be visited. **Meet** at 10.30 at the flagstaff by Whitestone Pond, which is about 250m north along Heath Street from Hampstead Underground station.

### **Saturday 4<sup>th</sup> May 2024 FIELD MEETING (non-marine) Bookham Common. Surrey**

**Leader:** June Chatfield ([drjunechatfield@gmail.com](mailto:drjunechatfield@gmail.com); 01420 82214)

The previous (2023) field meeting to Bookham Common was on the hottest day of the year and only two people attended, including the leader so another visit is justified. We hope to relocate species recorded there in the 1940s by A E Ellis and also to look for *Limax cinereoniger* found by C P Castell. **Meet** at 10.30am in the car park of Bookham Common railway station. Parking (pay and display there and at the National Trust car park nearby [NT members free] others pay and display by phone). Bookham Common is also reached by trains from London Waterloo and Guildford and by the 479 bus (Guildford – Epsom) which stops at the station.

### **Saturday 8<sup>th</sup> June 2024. FIELD MEETING (non-marine): Withymead Nature Reserve, Goring, Oxon RG8 0HS**

**Leader:** Tom Walker ([tom@tmwalker.co.uk](mailto:tom@tmwalker.co.uk); 07488-231-574)

Withymead is a small nature reserve on the banks of the River Thames with a range of habitats, mostly wooded but with areas of reed fen and marsh and some dryer open land. We plan to examine the various areas and build up a picture of the molluscan fauna of the reserve. **Meet** at 10.30 in the car park on the reserve.

### **Sunday 15<sup>th</sup> September – Sunday 22<sup>nd</sup> September 2024. FIELD MEETING (marine). Anglesey.**

**Leader:** Simon Taylor ([ukseashells44@gmail.com](mailto:ukseashells44@gmail.com); 01621 810141 / 07947 388180). Arrangements in progress: further details will appear on the Society website. If you are interested in attending, please contact the leader.

### **Saturday 12<sup>th</sup> October 2024. FIELD MEETING (non-marine): Wyre Forest, Worcestershire.**

**Leaders:** Rosemary Hill ([rosemaryhi@lineone.net](mailto:rosemaryhi@lineone.net); 0121 4431459) & Rosemary Winnall. This will be a joint meeting with the Wyre Forest Study Group (WFSG). Arrangements in progress: further details will appear on the Society website.

**Further field meetings** are currently being planned, (including some opportunistically, often at short notice) the details of which will be posted onto the Conchological Society website. Society members are encouraged to check this regularly for notification of such meetings as well for updates on the other fixed dates.

---

## How to become a member of the Conchological Society

Subscriptions are payable in January each year, and run for the period 1st January to 31st December. Members joining later in the year will receive all publications issued during the relevant calendar year. • Ordinary membership £33 • Family/Joint membership £35

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

In view of the high cost of 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 Catherine Jagger, 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 must be nominated, so please use the Hon Treasurer's name, Brian Goodwin.

## 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. Please aim for **copy intended for the July 2024 issue to be sent to him before 20th May 2024**; 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.

---

## Membership update

The following Conchological Society members have not previously been included in either this column of Mollusc World or in the latest edition of the Members' Guide (2022). 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 Catherine Jagger at CIRCA subscriptions (details on previous page). The codes in italics after the member's e mail address indicate a member's interests: *C* – Conservation; *E* – Ecology and pollution; *G* – General malacology including genetics/physiology; *Nb* – British non-marine.

**New members** Ms Nina Hundt [ninahundt@googlemail.com](mailto:ninahundt@googlemail.com)

Mr R Holdgate, 21 Malthouse Way, Barrington, Cambridge, CB22 7RR [ross.holdgate@gmail.com](mailto:ross.holdgate@gmail.com) C E G Nb

## Diary of Meetings

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



### Indoor meetings (for field meetings please see inside back cover)

Indoor meetings are normally held at the Natural History Museum, Cromwell Road, London (nearest underground station South Kensington) at intervals of four to six weeks between October and April. The main event at these meetings is usually a lecture by a guest speaker or society member. Most meetings also include a show-and-tell session when people have an opportunity to show specimens and anything else of molluscan interest to those at the meeting, and get comments from them. There are also opportunities for informal discussions over tea/coffee. The meetings take place in the Angela Marmont Centre for UK Biodiversity. To find this most easily, come into the Museum at the main entrance. In front of you, you will find a large blue whale skeleton. At the far end of the blue whale skeleton, turn left down a passage past a shop on the right and a cafeteria on the left and you'll see stairs leading down to an open glass-fronted lower-level atrium. The Centre is not open-access, so you will need to ring the bell to the right of the door (close to the end of the atrium) to gain admission. To avoid a long queue at the entrance, it is possible to book a (free) museum entry time slot at <https://ticketing.nhm.ac.uk/events>.

**Attending by Zoom** (when available): It is ESSENTIAL to let Catherine Jagger at CIRCA ([shellmember@gmail.com](mailto:shellmember@gmail.com)) know of your intentions to attend by Zoom, preferably at least one week prior to each meeting. She will then send you joining instructions and an agenda. If you do not respond on time, it may not be possible to make the necessary access arrangements. Zoom meetings will open from 13.45. Please ensure that you join before the 14.00 start as late admissions may be impossible. News updates will also appear on the Society's website.

#### Saturday 20<sup>th</sup> April 2024: ANNUAL GENERAL MEETING AND ADDRESS (NHM with Zoom link)

**Guest speaker:** Tom Walker. 'In search of aliens; hothouse molluscs in Britain and Ireland.'

A talk describing issues relating to a range of species that have been found living in hothouses.

14.00 – 17.30 (13.45 Zoom sign in – pre-register with Circa):

Angela Marmont Centre, Natural History Museum, London SW7 5BD

(Council members please note that there will NOT be a Council meeting before this meeting.)

#### Saturday 6<sup>th</sup> July 2024: ZOOM MEETING with online exhibits and lecture

**Guest speaker:** Imogen Cavadino, 'What can Citizen Science tell us about slugs in British gardens?'

In this talk we hear about the citizen science research Imogen ran as part of her PhD, with 'Slugs Count', the first in-depth study of the British garden slug fauna since the 1940s. We'll hear how over 22,000 new slug records made by the public have helped inform understanding of the slug fauna in Britain and illustrate large-scale changes in our gardens over recent decades.

14.00 – 16.00 approx. (13.45 Zoom sign in – pre-register with Circa)

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

#### Saturday 19<sup>th</sup> October 2024: INDOOR MEETING with exhibits and lecture (NHM with Zoom link)

**Guest speaker:** John Hutchinson (Senckenberg Museum of Natural History Görlitz). 'A slug saga: historical confusions and new findings about *Ambigolimax parvipenis*.' A talk including a fascinating detective saga into what had been named '*Ambigolimax nyctelius*' 14.00 – 17.00 (13.45 Zoom sign in – pre-register with Circa):

Angela Marmont Centre, Natural History Museum, London SW7 5BD

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

#### Saturday 9<sup>th</sup> November 2024. REGIONAL MEETING in Cardiff.

Organisers: Ben Rowson, Anna Holmes and Martin Willing. The event will be held in the National Museum Cardiff / Amgueddfa Genedlaethol Caerdydd. The meeting will consist of short papers with a particular focus on recent Welsh molluscan projects including those associated with the HLF supported Natur am Byth 'Back from the Brink' project. There will also be opportunities to tour the mollusc collections within the department including several recently acquired ones.

Contributions of presentations (up to 20/25 minutes) will be welcomed. Please contact the organisers for more details.

It is likely that a Conservation and Recording Forum meeting will be held on Sunday 10<sup>th</sup> November.

#### Saturday 7<sup>th</sup> December 2024: INDOOR MEETING with exhibits and lecture (NHM with Zoom link)

**Guest speaker:** Louise Firth (Plymouth University). 'Limpets: ecosystem engineers that provide ecosystem services.'

14.00 – 17.00 (13.45 Zoom sign in – pre-register with Circa):

Angela Marmont Centre, Natural History Museum, London SW 7 5BD.

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

*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.*

Meeting Programme compiled by Martin Willing. Contacts for meetings related matters are either Martin Willing ([programme@conchsoc.org](mailto:programme@conchsoc.org)) OR Rosemary Hill ([secretary@conchsoc.org](mailto:secretary@conchsoc.org)).