

# Mollusc World

November 2023 Issue 63

Breeding and colour variation in  
*Arion hortensis*

Historical perspectives:  
Hugh Miller and  
Francis M. Duncan

Field meeting  
reports



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

## From the Hon. Editor

Firstly, many thanks to all those who have sent in items for this issue. As usual, please continue to submit items on any relevant subject, especially if you have not done so before. To redress the balance, articles about marine molluscs would be particularly appreciated.

In September came the good news of the release of 1600 endangered *Partula* snails, bred at ZSL Whipsnade Zoo, into carefully prepared predator-proof snail reserves on the island of Moorea. This is part of a well-known ongoing project, working closely with the French Polynesian government and the international Zoo community. The ambitious reintroduction programme includes the breeding, releasing and monitoring of snails on four islands. Altogether 11 previously extinct in the wild species have been reintroduced. Those who accompanied the snails to their destination included Whipsnade invertebrate specialist Tyrone Capel, who kindly agreed to show three of us around the snail breeding areas during a Bedfordshire Invertebrate Group visit last year (see also [www.zsl.org/news-and-events/news/extinct-snails-return-wild](http://www.zsl.org/news-and-events/news/extinct-snails-return-wild)).



Many of you will have known our honorary member Judith Nelson, who died aged 89 on 26<sup>th</sup> August. Judith was a familiar and encouraging presence at meetings of both the Conchological Society and the British Shell Collectors Club (of which she was President from 2013-16) over many years, organising refreshments at meetings and

hosting Conch. Soc. workshops in her home in Woking (see photo above, taken in 2009). Online donations to the Conchological Society in Judith's memory can be made at <https://judithnelson.muchloved.com>. An obituary of Judith will appear in this magazine in a future issue.

*Peter Topley*

## 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 35 for further details).

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

## 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. Members receive two publications: *Journal of Conchology* which specialises in Molluscan Biogeography, Taxonomy and Conservation and this magazine. New members are always welcome to attend field meetings and indoor meetings before joining.



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# Field meeting in Hill Wood, Erlestoke, Salisbury Plain, Wiltshire,

June 18<sup>th</sup> 2023

Keith Alexander & Julie Swain

The rare snail *Ena montana* was discovered near Erlestoke by Charles Oldham (1868–1942) in 1917 and found again nearby by D.G. Pickerell in 1970 (specimen confirmed by Michael Kerney) but with no records since. The 1970 information noted the locality as ‘below Coulston Hill, steep chalk bank under beech and ash, common’. Charles Oldham was a leading authority on British ornithology and Mollusca, and a prominent member of this society who served on Council and was Hon. Treasurer for 22 years (Anon. 1943) (figure 1). We have been unable to find anything about Mr Pickerell. Coulston is the neighbouring parish on the west side of Erlestoke and the woodland below the hill is named as Baynton Hillside Wood on the OS 1:25000 map – the ownership of this wood is not known to the authors. JS is a member of the MOD Salisbury Plain Conservation Group (SPCG) and was able to arrange access to Hill Wood, Erlestoke, which is owned by the MOD.

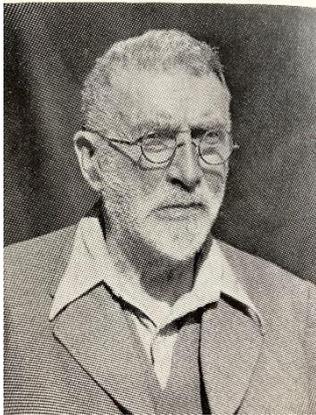


figure 1: Charles Oldham.  
(photo: *J.Conch.* 22, 1943)

Erlestoke village sits at the base of the slope up onto Salisbury Plain, the steep ground being lined by woodland. The hanging beech wood is reported to have been felled by the MOD in the mid-20<sup>th</sup> century and replanted with a beech-conifer mix. While the upper edge retains a few ancient beeches and some mature beech, the slopes are now a varied mix of maturing beech and a variety of conifer species. The ground beneath is dominated by ivy. Woodland continues along the escarpment to the west into Coulston civil parish and east into Cheverell Magna but the field meeting focused on the MOD land of Hill Wood. It is not known which section(s) of woodland produced the two earlier records.

SPCG members were invited to join us and this attracted three more, making a party of six, including the two leaders and Keith’s wife Janet. We entered the western end of Hill Wood (figure 2), keeping to the gentler ground along the upper edge – the slope drops away alarmingly below! The woodland was parched dry after many weeks of hot sunshine and no rain, and we wondered whether we would find any molluscs at all up on the tree trunks. But juvenile *Cepaea nemoralis* were quickly found and an occasional *Clausilia bidentata*; then *Merdigera obscura* and – thankfully – our first *Ena montana* (at ST954530) (figure 3). Now we were started, and both *M. obscura* and *E. montana* were readily found on trees as we gradually worked our way eastwards. Adults and juveniles of both species were

plentiful on the trunks of the young beech and we even found one adult *E. montana* on a smooth-barked conifer trunk as well as on the occasional sycamore. About 40 adult *E. montana* were found in total across the western third of the wood, up to ST960528, from where denser conifer plantations could be seen ahead and the survey was abandoned. One *E. montana* was estimated to be about 5 m up one beech and it seemed obvious that the snails were ascending right up into the tree canopy.

*Trochulus striolatus* was also found ascending the tree trunks, and eventually a single *Helicigona lapicida*, but remarkably not a single *Cochlodina laminata*. The leaf litter held nothing and the ground beneath was dry and hard. A few old shells of *Pomatias elegans* were seen at one point and a few *Discus rotundatus* and *Aegopinella nitidula* beneath the occasional larger log on the ground. The final tally for the day was just 11 snail species.



figure 2: Hill Wood, Erlestoke. General view internally.  
(photo: Keith Alexander)



figure 3: Mature *Ena montana* on beech trunk, Hill Wood.  
(photo: Keith Alexander)

## Acknowledgements

Thanks are due to the MOD Salisbury Plain Training Area for permission to enter and record molluscs in Hill Wood, and to the enthusiastic SPCG members who made the day particularly enjoyable – they were as enthusiastic as any Conch. Soc. member!

## Reference

Anon. (1943) Charles Oldham (1868–1942). [Extract from *The Times* of 15<sup>th</sup> April 1942.] *Journal of Conchology* 22 (1): 1–2.

# Shell colour patterns in the wrinkled snail, *Xeroplexa intersecta*, with some notes on *Baceljaia gigaxii*

Adrian T. Sumner

The wrinkled snail, *Xeroplexa intersecta* (formerly *Candidula intersecta*), is a common snail of calcareous grassland and similar habitats. In its common form, *X. intersecta* has a mottled or blotchy shell (figure 1); this is the form most commonly illustrated in reference books. However, several other colour forms occur, and these are not always illustrated and can be confusing. At least, they have puzzled me and sometimes led me to misidentify specimens. I have therefore put together illustrations of various colour patterns of *X. intersecta* and I hope this might prove useful to people struggling to identify unfamiliar shells. Many of these varieties have been given names in the past and, while this practice has some value, it must be emphasised that there is a large variety of colour patterns which can grade into one another. Occasionally shells can be found that are a dark reddish-brown colour all over, with perhaps a few paler flecks (figure 2); these appear to correspond to the variety *fulva* (Pearce 1889; Ellis 1969). When I first found such a shell, it took me some time to realise that it was specimen of *X. intersecta*. The Latin *fulva* means yellow, tawny, amber or similar colours, but the specimen in figure 2 is much darker. A similar variety in *Baceljaia gigaxii* [then *Helicella heripensis*] has been described as a ‘deep chocolate’ colour (Joliffe 1914). At the other extreme, shells can be found that are almost entirely whitish (figure 3); according to Ellis (1969), a pure white form, *alba*, is rare, but the specimen shown in figure 3 has a few markings and is not pure white. Of course, old shells become bleached and eroded and lose their colour; such shells should not be confused with genuinely white ones.

Figure 4 shows a typical banded form, with a broad band at or just above the periphery, and several narrow bands on the underside of the shell; this is the form *ornata* described by Jeffreys (1862) and is relatively common. Although at first sight the bands appear black, at least on the shell of a living animal, they are in fact a shade of brown. The pattern is similar to that commonly observed in *Ceriuella virgata* (Sumner 2018) and I have been misled into identifying banded varieties of *X. intersecta* as *C. virgata*. However, *C. virgata* tends to have larger shells (8–25 mm diameter) and a smoother surface, while *X. intersecta* (7–12 mm diameter) has much coarser transverse ridges on the shell. Sometimes the banding in *X. intersecta* is fainter and only a single peripheral band is visible (figure 5). At the opposite extreme, white shells with two broad bands also occur (figure 6). Pearce (1889) put forward an interesting hypothesis concerning banded shells of *X. intersecta* [then *Helicella caperata*]. Finding that these were common only on sheep pastures, he proposed that the sheep would accidentally eat snails while grazing, but found them somewhat distasteful. The sheep would therefore tend to avoid the conspicuous ‘black and white’ banded *ornata* shells, but would fail to notice the ordinary mottled shells which they would eat by accident. He produced figures from habitats grazed by sheep and those not grazed in support of this hypothesis, but I have not found that anyone has investigated this further.

It is worth noting that other species related to *X. intersecta* show a similar range of shell colour patterns (for example, Holyoak & Holyoak 2014). In Britain, *Baceljaia gigaxii* (formerly *Candidula gigaxii*) is the only other widespread species with such a range of colour patterns. It has been suggested that it shows a lesser range of colour and pattern than *X. intersecta*, but as well as the typical form, similar to that of *X. intersecta*, banded shells and uniformly dark shells corresponding to *fulva* have been described (Joliffe 1914), as well as white ones (Oldham 1915). Kendall (1912) described a variety, *lutescens*, as having ‘a wet sand colour without markings’. Both these species, therefore, show a great range of shell colour and pattern, and I hope that the different shell colour patterns illustrated here will help to identify unusual-looking *Xeroplexa intersecta*, and perhaps also *Baceljaia gigaxii*.

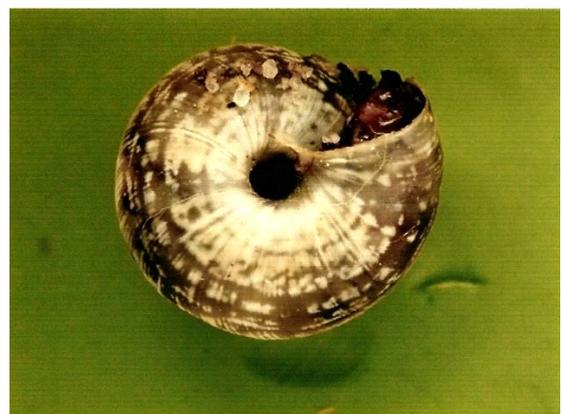


figure 1: A typical shell of *Xeroplexa intersecta*, showing a blotched or mottled pattern.



figure 2: A shell of *X. intersecta* with a dark reddish-brown colour all over, except for a few pale flecks. Similar to the variety *fulva*.



figure 3: A pale shell of *X. intersecta*, off-white except for a few flecks of colour.



figure 4: A shell corresponding to the variety *ornata*, with a broad dark band above the periphery of the shell and a number of narrow bands on the underside of the shell.



figure 5: A paler version of the pattern shown in figure 5, in which only the broad band, relatively faint, is visible.



figure 6: A shell of *X. intersecta* with a broad band above the periphery of the shell, another broad band below the periphery and a finer band below that.

## References

- Ellis, A.E. (1969) *British Snails*. 2<sup>nd</sup> edn. London: Oxford University Press.
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- Sumner, A.T. (2018) Variation in shell colour and pattern correlated with microclimate in the striped snail *Ceruella virgata* (Da Costa, 1778) (Gastropoda, Pulmonata, Hygromiidae). *Journal of Conchology* **43**: 1–11.

# Field meeting at Warburg Nature Reserve, Bix, Oxfordshire – 3<sup>rd</sup> June 2023

Tom Walker

The Warburg Nature Reserve (figure 1) is owned and managed by the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT), having been purchased in 1967. It covers 102 hectares (262 acres) of partly ancient woodland, with areas of scrub and two long strips of grassland, the latter being the remnants of wartime rifle ranges. It is an SSSI for its rich fauna and flora, including many orchids, but molluscs are not included on the SSSI designation. It is one of the remaining strongholds of *Ena montana*. The reserve is entirely on chalk, and lies either side of a dry valley which has been used as a trackway for many centuries.



figure 1: Warburg Nature Reserve (NR), Oxfordshire.  
(photo: Peter Topley)

Shells on the reserve have been studied in the past. A PhD thesis by Neville Gardner (1991) used this reserve as one of his study areas to explore the changing molluscan fauna between woodland and open areas, although he concentrated heavily on subfossil assemblages obtained from topsoil samples. Gardner found 41 species in several sample transects; no slugs were recorded as this was a subfossil study.

There do not appear to have been any other systematic molluscan studies on the reserve, but numerous observations are recorded on the Conchological Society database, covering 27 shelled species and five slugs. BBOWT was keen to have an up-to-date survey.

Conditions were not optimal for our visit on 3<sup>rd</sup> June, which was attended by five Society members. The ground was very dry, there having been no rain for several weeks prior to the visit. It is also likely that the mollusc populations had become depleted as a consequence of the very hot summer of 2022. The morning was spent on the north (south-facing) side of the valley, where we searched both the grassy areas of the old rifle ranges (figure 2), areas of short scrub and the woodland (figure 3). Shelling was held up for some time in the woods when a fly orchid (*Ophrys insectifera*) was found in flower (figure 4).



figure 2: Tom Walker and June Chatfield searching the grassy bank of the old rifle ranges.  
(photo: Peter Topley)



figure 3: Mags Cousins, Rosemary Hill, June Chatfield and Tom Walker searching woodland on the north side of the valley.  
(photo: Peter Topley)



figure 4: Fly orchid (*Ophrys insectifera*), Warburg NR.  
(photo: Mags Cousins)

After lunch back at the car park, we looked at a very small pond (about 5 m in diameter, the only area of standing water in the reserve) (figure 5) and then in the wooded areas on the southern (north-facing) side of the valley.



figure 5: Participants at the small pond.  
(photos: Peter Topley/June Chatfield)

A total of 32 species of mollusc were recorded, the great majority 'normal' species found in woodland, such as *Discus rotundatus*, Clausiliidae (figure 6) and Oxychilidae (figure 7). Being on the chalk, *Pomatias elegans* was abundant everywhere. One of the first molluscs observed was a live *Helicigona lapicida* (figure 8). It was good to find that *Ena montana* was still climbing the ash trees (figure 9). What was disappointing was the very limited number of 'open country' species we found in the grassy areas – only a single *Vallonia costata* live, and one shell of *V. excentrica*; no *Pupilla*, *Candidula*, *Cernuella* or *Helicella*. Were we just unlucky or are these species really declining, as has been suggested elsewhere?



figure 6: A tree-climbing plaited door snail (*Cochlodina laminata*), Warburg NR.  
(photo: Peter Topley)



figure 7: Cellar snail (*Oxychilus cellarius*) under log, Warburg NR.  
(photo: Peter Topley)



figure 8: June Chatfield photographing a live *Helicigona lapicida* (below), Warburg NR.  
(photos: Peter Topley)

On the positive side, we were able to add 11 species to the CS database, and for the record they are listed here (live unless stated): *Acicula fusca* (shell), *Cochlicopa lubrica*, *Vallonia costata*, *V. excentrica* (shell), *Vitrea crystallina*, *Arion ater* seg., *A. distinctus*, *A. intermedius*, *A. rufus*, *Planorbarius corneus*, *Planorbis planorbis*. All the land shelled species had previously been recorded in Gardner's study.

This reserve has the potential to yield a much richer molluscan fauna than we found on our brief, very dry, visit and the author will make further visits when the weather conditions are more optimal and the likelihood of observing a greater range of species will, hopefully, improve.



figure 9: *Ena montana* (left) and *Merdigera obscura* (right) on ash trees, Warburg NR.  
(photos: Peter Topley)

#### Reference

Gardner, N.P. (1991) *Small-scale distribution of two modern land snail faunas: islands and boundaries of relevance to the interpretation of subfossil assemblages*. Unpublished PhD thesis. Cardiff: University of Wales.

# Rare sea slug *Atagema gibba* recorded at Les Écréhous, Jersey

Nicolas Jouault

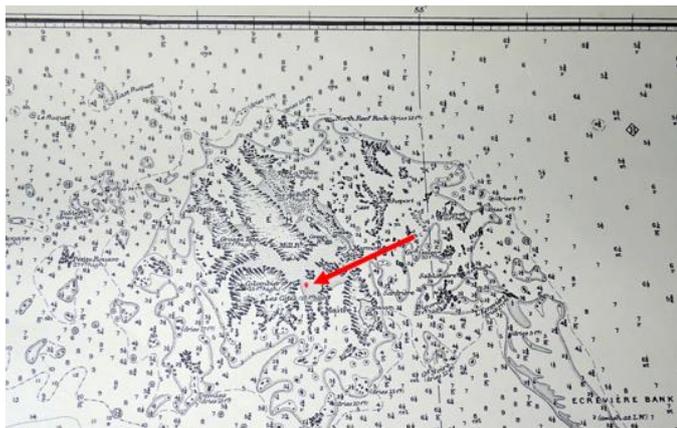


figure 1: Detail of 1904 Admiralty chart of Les Écréhous reef showing site of *Atagema gibba* record. Soundings in fathoms.



figure 2: Large tidal pool near the Hau, Les Écréhous.

On 8<sup>th</sup> February 2023, the author, Société Jersiaise Marine Biology section member Nick Jouault, took advantage of the calm weather and undertook a low water survey at the Écréhous. Les Écréhous is a Crown-owned group of islands and rocks within the territorial waters of Jersey, part of the parish of St Martin (see Jouault 2023). One of the species that he was hoping to see was the sea slug *Berghia coerulescens* (which he did not).

In one of the larger tidal pools near the Hau (figures 1 and 2), he turned a stone and discovered a rare sea slug, *Atagema gibba* (figures 3 and 4). It was identified by Hsini Lin of Taiwan and later verified by UK expert Bernard Picton of Northern Ireland. The specimen was unusual as it was found at the low tide mark, whereas it is normally recorded on steep rock faces at 8–15 m depth of water. This specimen was also lighter in colouring, as it is usually chocolate brown. There have only been four previous records of this species in the British Isles: two off Cornwall, and two off Sark recorded by Sue Daly.

*Atagema gibba* can easily be distinguished from other sea slugs in that it has pronounced bumps along its back, from which it gets its Latin name *gibba*, meaning hunchback; the French common name *doris bosse* also refers to this, with *bosse* meaning hunchback.

This is the third new Jersey sea slug species to be discovered and recorded by the author in the 12 months to February 2023, following the first British record of the colourful *B.*

*coerulescens* in August 2022, and the small grey-coloured *Pruvotfolia pselliotes*, which incidentally was found with *A. gibba* on the same rock. These records can be viewed on the section's page of iNaturalist at <https://www.inaturalist.org/projects/societe-jersiaise-marine-biology-section>.



figure 3: *Atagema gibba* from above, Les Écréhous.



figure 4: Side view of *Atagema gibba*, Les Écréhous.

## Recording details

Position: N 49 17 22 W 1 56 10

Weather: fine and sunny, wind light easterly

Temperature: 8.5°C, overnight 0.1°C

Sea temperature: 8.8°C; Low tide: 1.9 m

## The four previous records of *A. gibba*:

August 2013 and May 2014, Sark, Sue Daly

May 2010, Scilly Isles, Angie Gall

November 1973, Cornwall, Bernard Picton

## Reference

Jouault, N. (2023) The first records of the sea slug *Berghia coerulescens* from the British Isles. *Mollusc World* 61: 12–15.

## Additional comments from the author (June 2023)

I think I have seen some eight more *B. coerulescens* at Les Écréhous this year, and a similar number in Jersey: how odd, from nothing to almost common! *P. pselliotes* is now common at Les Écréhous, and a first confirmed Jersey shore record was found by me a couple of weeks ago on a section shore meeting at La Saline on the west coast, not where we would really expect to find it. Lots of the grey sea slug, *Jorunna tomentosa*, have been recorded recently, but oddly a lack of sea hares (*Aplysia punctuata*).

# Arion vulgaris in Bedfordshire

Peter Topley

The vulgar or Spanish slug, *Arion vulgaris*, is a serious pest species in central and northern Europe with a possible origin in south-west France (Welter-Schultes 2012). It is apparently 'highly resistant to drought' and is 'without any significant predators and with very low parasitisation rates' (Horsák *et al.* 2013). In Europe populations can reach 'plague' proportions, resulting in damage to crops and vegetation. Scattered records of this species have been recorded throughout Britain and Ireland, with a concentration of frequency in Devon; however, prior to 2019 there is only a single Bedfordshire record in the NBN Atlas (<https://records.nbnatlas.org>), from Luton in 1987, submitted by Beryl Rands.

Although it can be difficult to distinguish the larger species of *Arion* from one another (for which reason the name '*Arion ater* agg.' is often adopted by recorders), it is important to try to obtain a determination as this can contribute to the monitoring of the status of potential pest species. Since the publication of the FSC guide *Slugs of Britain and Ireland* (Rowson *et al.* 2014) identification has been made a little easier, although the variability of individuals within a species can be problematic. I am by no means an expert in slug dissection but I recommend attempting this, at least with the larger *Arion* species, following the instructions in the FSC guide.

The few recent records of *A. vulgaris* from Bedfordshire (one from 2019 and three from this year) have largely been from disturbed habitats: two from gardens in Toddington (figure 1) and Clifton, one from an area of damp woodland at Center Parcs near Woburn (figure 2) and the fourth on a path in a plantation close to a farm near Sandy. All the specimens exhibited the non-contrasting foot fringe, dark sooty-grey sole and dark rim around the breathing pore that are characteristics of this species. Specimens that were dissected were confirmed by the presence of an elongate,

non-fringed and symmetrical ligula within the oviduct (see Rowson *et al.* 2014: 114). It is too early to draw any conclusions from these records on the spread of this species, but they highlight the need for continued monitoring.



figure 1: *A. vulgaris* from a garden in Toddington, Beds., showing the non-contrasting foot fringe and dark rim around the breathing pore. (photo: John Pitts)



figure 2: *A. vulgaris* from Woburn Center Parcs showing a dark grey sole that is darker than the body sides.

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Horsák, M., Juříčková, L. & Pícka, J. (2013) *Molluscs of the Czech and Slovak Republics*. Zlin: Nakladatelství Kabourek.  
Rowson, B., Turner, J., Anderson, R. & Symondson, B. (2014) *Slugs of Britain and Ireland*. FSC/National Museum of Wales.  
Welter-Schultes, F. (2012) *European non-marine molluscs, a guide for species identification*. Göttingen: Planet Poster Editions.

# Going, going, gone

June Chatfield

A common garden snail (*Cornu aspersum*) arrived at 2pm from nearby pots in my garden to find a segment of orange not eaten by the tortoises. It reoriented to tackle it from a different position. Then it returned to its hiding place for the rest of the afternoon, being discovered returning at 8pm to complete the feast.



1. *Cornu aspersum* finds a segment of orange.



2. Loses interest and goes away.



3. Comes back for another go.



4. Loses interest and goes away for a second time.



5. Returns at 8pm to finish it off.

# Penguins, cheese mites and pelicans – the world of Francis Martin Duncan

Brian Goodwin

Perhaps the name Francis Martin Duncan (FMD) rings a bell?

Well, let's start with the penguin. F. Martin Duncan, as he was generally known, is best known (to me at least) as the author of a modest little tome from the King Penguin stable (tick 1 from the title above). The book is called *British Shells* and follows the 'standard' King Penguin format of 32 pages and 16 coloured plates, although there were plenty of variations<sup>1</sup>. The books were the first Penguins to feature hardback covers as well as colour printing. Duncan's was the sixth volume in the series, published in 1943 (figure 1), and the first to be priced at 2/- (a doubling in cost)<sup>2</sup>. The cover design is by Marian Mahler who also did a few other covers in the series. A full list of King Penguins is available at: <https://penguinchecklist.wordpress.com/early-series/king-penguins/>.

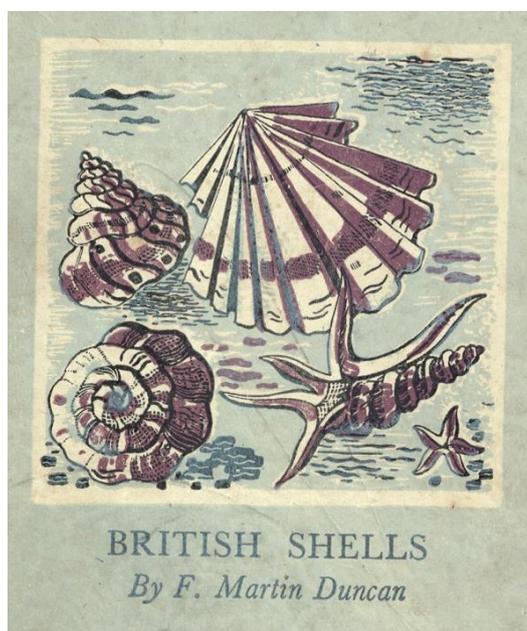


figure 1: Cover of *British Shells* (Duncan 1943).

Aimed at a general audience, *British Shells* starts with a short introduction, prefaced by what Duncan described as 'Tennyson's beautiful lines':

*See what a lovely shell,  
Small and pure as a pearl,  
Lying close to my foot,  
Frail, but a work divine,  
Made so fairly well,  
With delicate spire and whorl,  
How exquisitely minute  
A miracle of design.*

Then, 16 plate descriptions are followed by a short bibliography and the plates themselves, which are all reproduced from Forbes & Hanley (1848–1853), hereafter referred to as F&H. Duncan is credited on the title page with 'F.R.M.S., F.R.P.S, F.Z.S.', so clearly was a man of some intellectual merit and standing, but since he was not someone who had otherwise impinged on my conchological consciousness, I set out to find a bit more about him. It turns out that, although he wrote a huge number of books on natural history, he wasn't even the most famous member of his own family, and perhaps not even the second.

## FMD's father – Peter Martin Duncan

Francis Martin Duncan's father was Peter Martin Duncan (1821–1891), a man of many talents. Having studied medicine at King's College, he took a practice in Colchester where he also involved himself in civic affairs and was elected mayor in 1857. In 1860 he moved to Blackheath and, with more spare time, devoted himself to the study of corals for which he was elected a Fellow of the Royal Society in 1868. By 1870, when he became professor of geology at King's College, a glittering career was well underway. A Fellow of the Geological Society, he later served as secretary and president, receiving the Wollaston Medal in 1881. Peter Duncan was also a Fellow (and officer) of both the Zoological Society of London (ZSL) and the Linnean Society, and an active member of the Microscopical Society (president from 1881–1883). As well as lecturing and examining, Duncan wrote both scientific papers (over 100) and popular works, including:

**Natural History, Cassell's New.** Edited by P. MARTIN DUNCAN, M.B., F.R.S., F.G.S. Cheap Edition. With about 2,000 Illusts. Three Double Vols., 6s. each.

Peter Duncan produced four sons and seven daughters from his first marriage to Jane Emily Cook, who died in 1869. Francis Martin Duncan was the sole offspring from a second marriage, to Mary Jane Emily Liddell Whitmarsh.<sup>3</sup>

## FMD's brother – Cecil Cooke Duncan

One of Francis Martin's half-brothers, Cecil Cooke Duncan (1868–1948), also achieved a degree of fame. Cecil had a strong interest in natural history but a degree in chemistry led him to a career as a public analyst in Worcester, where he was responsible for food safety, water quality, animal and human diseases, and air quality. He gained scientific recognition for his work in many areas, including anthrax imported in Indian wool, and sheep dipping to control scab. His natural history interests were broad, mirroring those of father Peter, and he managed to combine his professional skills and those of an amateur geologist as a major contributor to the British Geological Survey's Memoir on *The Waters of Worcestershire* published in 1930.

As an example of the attention received by FMD's father and half-brother, we need look no further than a lecture at the History of Geology Group meeting in 2014, entitled *Duncan and son – two generations of scientific polymaths* (by Tim Carter & Anne Spurgeon).<sup>4</sup> There are no prizes for guessing which son the title referred to.

## Francis Martin Duncan

Francis has not received the recognition that was afforded to his father Peter or half-brother Cecil, but this appears more a matter of oversight than a reflection of his abilities and achievements. His Wikipedia page<sup>5</sup> is rather underwhelming – three short paragraphs of biography followed by a list of five films and 15 selected publications – and I could find no obituaries or anything of a similar nature where biographical information was available. Clearly, a bit more digging was required. When I delved deeper, it became apparent that, like his father and sibling, he was a man of many talents: a pioneering photographer, an innovative film maker, a prolific populariser of natural history through a series of books, and a competent administrator – in his role as librarian of the ZSL.

## Microscopy and photography

No doubt FMD gained insight and experience in microscopy via his father's interest, and he became a long-standing Fellow of the R.M.S. While FMD never aspired to the presidency, like his father, he was elected as an honorary fellow in 1954 (figure 2 pictures him at his microscope). He also belonged to London's Quekett Microscopical Club. While microscopy was clearly an early interest, he soon became skilled in photography and was elected a Fellow of the Royal Photographic Society. Before the days of cinema, in the early 1890s, he experimented with sequence photography, showing the results in motion on a zoetrope. It was a small step from this into the world of film.



figure 2: Francis Martin Duncan as a young man, engaged in photo-microscopy.  
(Fair Use – author or copyright owner unknown)

### And so, the cheese mites!

In order to flesh out the second element in this article's title, we need to pick up the story of the cheese mites (for our tick 2). In 1903, Charles Urban, the son of German immigrants and entrepreneur in the fledgling film industry, established the Charles Urban Trading Company to produce the first ever series of popular science films. Urban engaged F. Martin Duncan to undertake the film work and together they published their first film catalogue in 1903. Included was a short silent documentary, *The Cheese Mites*, produced by Charles Urban, directed by F. Martin Duncan, and part of Urban's 1903 *Unseen World* series, which brought the microscopic world to the screen. It showed large-as-crabs mites wandering about a lunchtime snack (Stilton apparently) to the joyful disgust of audiences. For 80 years the British Film Institute's archives held the only version of the film, but one is now available at: [https://commons.wikimedia.org/wiki/File:The\\_Cheese\\_Mites\\_\(1903\).ogv\\_\(Public\\_Domain\)](https://commons.wikimedia.org/wiki/File:The_Cheese_Mites_(1903).ogv_(Public_Domain)).

The opening (figure 3) shows, it is said, a professor (actually F. Martin Duncan himself) initially using his magnifying glass to read a newspaper, and then horrified when he switches to examining his bread and cheese (figure 4) – in reality, a photo-microscopical view of the cheese mites.

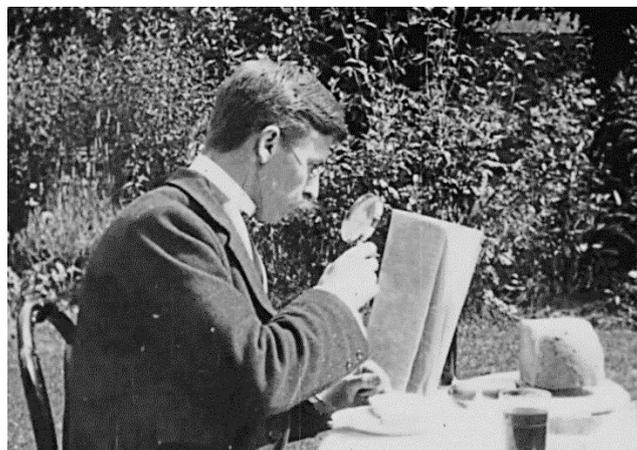


figure 3: Screenshot from *The Cheese Mites* showing FMD using a magnifying glass to read a newspaper. He then starts to examine the Stilton cheese on his plate, with somewhat gruesome results! (Public Domain)

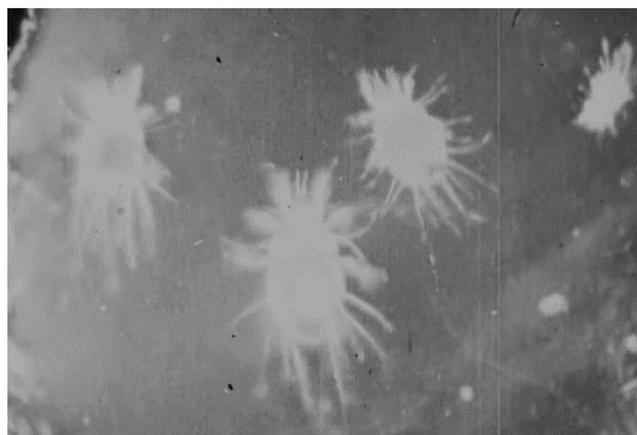


figure 4: Screenshot from *The Cheese Mites* showing a microscopical view of the 'crab-like' cheese mites. (Public Domain)

The early part of the 20<sup>th</sup> century was an extraordinarily prolific one for Duncan in terms of film-making. The Internet Movie Database (IMDb)<sup>6</sup> lists him as director of 31 short films, and no less than 107 for which he was cited as cinematographer. The vast majority of these were dated 1903 or 1904, but by the end of the decade he had parted company with Urban and begun concentrating on still photography and writing.

### Author...

By the early 1900s, FMD was not only providing photographs for other authors, but had begun to publish himself. The first book I could trace was *Some Birds of the London Zoo* (1900), establishing a link that would become even more significant later in his career. Another early offering was, appropriately, *First Steps in Photo-Micrography*, published in 1902. Soon after he relinquished his film career, books began flowing from his pen at a steady rate and continued to do so for more than 40 years. Between 1906 (*Insect Pests of the Farm and Garden*) and the early 1950s, more than 50 volumes of popular natural history were published by around 20 different publishers including such well-known names as: Collins, Hodder & Stoughton, Oxford University Press, and Sampson Low.

In many of these works, he was assisted by his wife Lucy T. Duncan (they married in 1896<sup>7</sup>), and at least two were translated into French. The exact role of Lucy is not clear, although in one case he expresses thanks 'to my dear Wife

for much valuable assistance'. Molluscs featured in several, such as *Dwellers of the Rock Pools*, *Denizens of the Deep* and *Wonders of the Shore*, but the only one dedicated entirely to them was the King Penguin. His photographic skills were an integral part of these books – figure 5 is one example, taken from *Cassell's Natural History* (Duncan 1913).



BIVALVE AND UNIVALVE SHELLS

figure 5: Plate from *Cassell's Natural History* (1913) facing p.101, photograph by FMD.

It is impossible to know how many books were sold, but they must have done well – for the publishers at least. *Wonders of Migration* ran to 18 editions, while there were 13 editions of *Bees, Ants and Wasps*. It seems safe to say that they helped to fill a niche for popular science volumes, and in doing so helped to consolidate the general public's interest in the natural world at a time when local natural history societies were also in their heyday. For this, FMD's contribution must surely be acknowledged and applauded.

#### Administrator...

While his father Peter was a Fellow of the Zoological Society of London, FMD became an employee (figure 6). Having photographed at London Zoo for many years, in 1919 he was appointed as librarian and clerk of publications, taking over from previous librarian Henry Peavot's widow Maude, who stepped into the role after Henry was killed during the war in France in 1917.



figure 6: F. Martin Duncan after joining the ZSL. (Licensed from ZSL)

Working for the ZSL gave plenty of opportunities to continue his passion for photography and many of his photos appeared on postcards (figure 7) and, posthumously, in a collection: *Golden Days: Historic Photography of the London Zoo* (Bond et al. 1976).

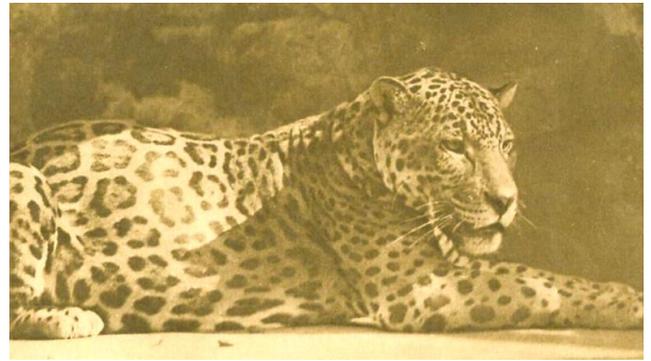
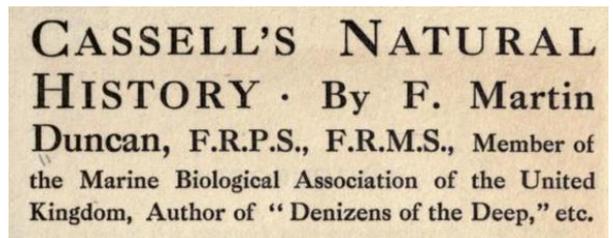


figure 7: Jaguar. One of FMD's many animal portraits from his time at ZSL, originally available as a postcard in the London Zoo shops.

During his tenure there, Duncan (1937) published an important paper for science historians.<sup>8</sup> On the ZSL website he is also 'noted as having contributed greatly (along with his assistant) to the preparation of a new library catalogue and a geographical card catalogue'.

#### And finally...

Rather than being a specialist, FMD had a broad and general interest in many aspects of natural history. He was never a member of CSGBI, nor the Malacological Society of London, so far as I can tell, although the title page of *Cassell's Natural History* (1913) (see below) indicated that he was a member of the Marine Biological Association of the United Kingdom.



The fact that Duncan was no great expert on the Mollusca may be the explanation for some rather strange aspects of his *British Shells* book. All but two of the 16 plates are of marine species, seemingly chosen for variety of form and attractiveness, rather than as common or representative types. Thus, the showier ormer was included at the expense of, say, dogwhelks and/or mussels. Ironically, the only taxonomic change Duncan 'updated' from the original F&H was the use of *Chenopus* in place of *Aporrhais*, one of the few instances where it would have been better (with hindsight) to have retained the original. (figure 8).

Considering the two 'non-marine' plates, it is hard to escape the conclusion that the freshwater one (*Unio margaritifera* [sic] – plate 6) was chosen more for size and interest, rather than as a typical freshwater representative, which would surely have been a gastropod. The chance of coming across it in the field, even 70 years ago, would have been remote.

The 'token' land shell inclusion (almost an after-thought as the final plate, 16) is also a 'head-scratcher'. It comprises plate CXVI lifted from volume III of F&H, namely six 'Helix' species: *aspersa*, *pomatia*, *lapicida*, *cartusiana* [sic], *aperta*, and *cantiana*. Of these, *pomatia* and *cartusiana* are categorised as nationally scarce and nationally rare species, while *aperta* only found its way into F&H: 'on account of a specimen found in Guernsey, in 1839, by Professor E. Forbes, and deposited in the British Museum'.

Then we have the rather strange colour balance of the plates – in my two copies at least they are consistently a rather lurid pink hue. Figure 8 shows part of plate 13 – *Chenopus pes-pellicani*, the pelican's-foot (tick 3), together with an un-coloured version from F&H (Plate LXXXIX) and a coloured version as it appears in F&H for comparison.

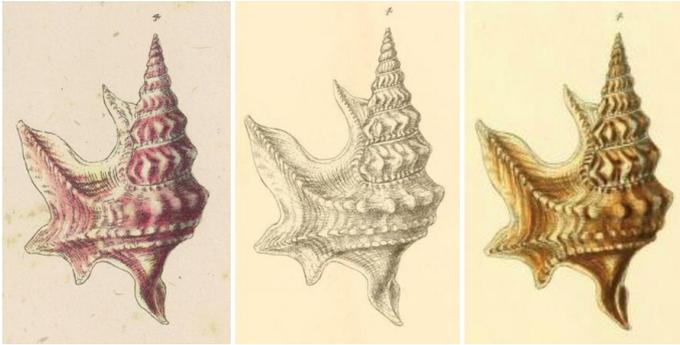


figure 8: Part of plate 13 of *British Shells: Chenopus pes-pellicani*, the pelican's-foot, together with un-coloured and coloured versions from F&H (Plate LXXXIX). This may be the only taxonomic change from the original F&H in Duncan's book. Ironically, *Chenopus* has reverted to *Aporrhais* as the accepted form.

Particularly baffling, to the less expert reader, must have been the inclusion of figures 7–9 on plate 15 of *British Shells* (figure 9).



figure 9: Embryo, egg capsule and operculum of *Fusus norvegicus* (part of plate CVII from F&H).

These three small figures were labelled *Fusus norvegicus*<sup>9</sup>, but without further explanation. *Fusus norvegicus* is another species unlikely to be encountered and had, in any case, already been figured in plate 14. Reference back to F&H would have been necessary to reveal that these were, in fact, the *Fusus* embryo, [egg] capsule and operculum. Of course, like the land shells plate, the inclusion of the above reflected the use of complete plates from F&H, no matter the relevance of the individual species or figures on the plate. *British Shells* was never intended as a field guide, nor for the expert, and I for one will continue to dip in from time to time with pleasure.

Duncan retired (aged 65) from ZSL after more than 20 years of service in 1939 with a pension of £300 p.a., although he continued some part-time supervisory and training work until 1944. Figure 10 shows him in 1934 towards the end of his career at ZSL.

His popular science books continued to be published until at least 1953. Wife Lucy died in 1957 after 60 years of marriage, while FMD himself passed away in 1961, aged 87. Probate reveals he left the relatively modest sum of £3121 9s., worth about £90K today allowing for inflation, so his efforts did not make him a wealthy man. However, it may well be that this was not his primary aim and I will conclude with a quote from the introduction to one of his books:

*'If the book and its illustrations should help to awaken and stimulate an interest in the wonders and beauties of animal life, then my labours have not been in vain'* (Cassell's Natural History).

In this, I believe, we can judge that F. Martin Duncan achieved his objective.

figure 10: Duncan at London Zoo in 1934.

(Licensed from ZSL)



### Acknowledgement

I would like to thank Emma Milnes and Ann Sylph from the Library of the Zoological Society of London for their help, and especially for granting permission to reproduce figures 6 and 10.

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### Endnotes

<sup>1</sup> For example, Volume 30: *A Selection of Engravings on Wood by Thomas Bewick, with a Note on Him* by John Rayner (1947) had 30 b/w plates and 17 illustrations in the text. Colour plates for Bewick would have been a bit of a waste, of course. Some volumes in the series were more popular than others. W.S. Bristowe's *A Book of Spiders* was sadly, but perhaps unsurprisingly, remaindered.

<sup>2</sup> The final volumes in the 1950s were priced at 5/-, by which time sales were falling and the series was discontinued. Nowadays, complete sets (76 volumes) can sell for hundreds of pounds.

<sup>3</sup> For more information on FMD's father Peter Martin Duncan see, for example: [https://en.wikipedia.org/wiki/Peter\\_Martin\\_Duncan](https://en.wikipedia.org/wiki/Peter_Martin_Duncan); <https://www.biodiversitylibrary.org/item/96114#page/364/mode/1up>; [https://en.wikisource.org/wiki/Dictionary\\_of\\_National\\_Biography\\_1901\\_supplement/Duncan,\\_Peter\\_Martin](https://en.wikisource.org/wiki/Dictionary_of_National_Biography_1901_supplement/Duncan,_Peter_Martin).

<sup>4</sup> See: [https://www.academia.edu/24615678/Geology\\_and\\_Medicine\\_Exploring\\_the\\_Historical\\_Links\\_and\\_the\\_Development\\_of\\_Public\\_Health\\_and\\_Forensic\\_Medicine\\_Celebrating\\_the\\_Tercentenary\\_of\\_Sir\\_John\\_Hill](https://www.academia.edu/24615678/Geology_and_Medicine_Exploring_the_Historical_Links_and_the_Development_of_Public_Health_and_Forensic_Medicine_Celebrating_the_Tercentenary_of_Sir_John_Hill).

<sup>5</sup> See: [http://wikipedia.org/wiki/F.\\_Martin\\_Duncan](http://wikipedia.org/wiki/F._Martin_Duncan).

<sup>6</sup> See: <https://www.imdb.com/name/nm2310770/>.

<sup>7</sup> FMD married Lucy Theresa Bell in 1896, in Paddington. It does not seem that any children resulted from the marriage.

<sup>8</sup> A subsequent commentary on FMD's paper, by Edward C. Dickinson (2005) can be accessed via Researchgate at: [https://www.researchgate.net/publication/229992363\\_The\\_Proceedings\\_of\\_the\\_Zoological\\_Society\\_of\\_London\\_1859-1900\\_An\\_exploration\\_of\\_breaks\\_between\\_calendar\\_years\\_of\\_publication](https://www.researchgate.net/publication/229992363_The_Proceedings_of_the_Zoological_Society_of_London_1859-1900_An_exploration_of_breaks_between_calendar_years_of_publication).

<sup>9</sup> Should be *norvegicus*. The currently accepted name from WoRMS is *Volutopsius norvegicus* (Gmelin, 1791).

I regularly visit St Nicholas Fields Local Nature Reserve (LNR) in York (SE616516) as a volunteer with their Wildwatch survey group and have found it to be an excellent site for molluscs; indeed, it's where I started taking an interest in both slugs and snails. In February 2020 I came across an almost white, small *Arion (Kobeltia)* type slug, but was unable to identify it. Chris du Feu suggested it might be one of the *Arion hortensis* group, but it would need dissection to be certain. I thought no more of it until another turned up in the same area in March 2022. I didn't collect it, but luckily managed to locate another a week later and collected that one. I kept it for a couple of weeks while I arranged to send it to Ben Rowson to find out what it was. I was sure it must be *A. hortensis* as I could see very faint mantle bands – the right-hand side band going over the pneumostome, a hint of white on the bottom row of tubercles and just a tinge of red in the eye tentacles (Rowson *et al.* 2014). Just before I sent it to Ben, it laid a clutch of eggs which proved to be fertile (figure 1).



figure 1: The pale *Arion hortensis* I collected from St Nicholas Fields LNR egg laying.

Ben dissected the adult and confirmed that it was *Arion hortensis*. I decided to raise the eggs to see what colour the offspring were. I regularly observed the eggs during their rapid development by immersing a few of them in water on a deep ring slide, made by gluing a ring onto a dimple slide. This gave enough depth to completely submerge the eggs in tap water and add a coverslip on top. The eggs were translucent, but submerging them rendered them transparent under the microscope. The egg shells contained granules of a crystalline substance, which I presumed was calcium carbonate. Movement of the embryos was visible by day 11,

and crossed polarising filters revealed the developing internal shell by day 14. The reddish coloration of the eye tentacles was just visible by day 22 and very clear by day 25. Pigment granules also started to appear in the embryos' skin at this stage, but it was difficult to tell what colour they were going to be. By day 28 the orange sole mucus was clearly visible and it was looking likely that they were going to be dark. Hatching started on day 33 and over the next week about 30 youngsters hatched, all of which were very dark (figure 2).



figure 2: The hatchlings from the first batch of eggs were all dark (seven days old).

Having read Wardhaugh (2022) on *Arion hortensis* colour variation, I decided to raise the offspring and breed them to see if their progeny showed any colour variation. I noticed that *A. hortensis* in the area where I found the original slug were often quite grey rather than fully black and wondered if this might be due to very pale genes in the population.

I kept six individuals and returned the rest to the St Nicholas Fields NNR site. Mating was first observed in September 2022 when the slugs were about four months old (figure 3), and the first clutch of eggs was laid five weeks later in October 2022. In all I obtained five clutches of eggs over the next four weeks which I intended to keep separate so I could determine the colour ratio for each clutch, but clutches 2, 3 and 4 were all laid on the same day and so close together I couldn't reliably separate them so kept these three clutches together. The adults were returned to St. Nicks and the eggs kept in separate containers lined with damp kitchen roll and some moss, and placed in an unheated garage. Clutches 1 to 4 took 37 days from laying to the start of hatching (figure 4); clutch 5 took 50 days to start hatching, but that may have been due to temperature variation as it was by then late December 2022.

All the clutches took at least a week to fully hatch. Clutch 5 was by far the largest and when I was inspecting the eggs to see if they were fertile, I noticed several normal-sized eggs containing two embryos, and one egg with five embryos (figure 5). Eggs with multiple embryos have been observed in *Ambigolimax valentianus* (Hommay *et al.* 2001). I put the quintuplet egg on its own in a separate container to see if all the embryos were viable, and they were – just very small when they hatched. They were so small that one got out of the air hole of the container and died, but the remaining four



figure 3: Mating was observed five weeks before eggs were laid.

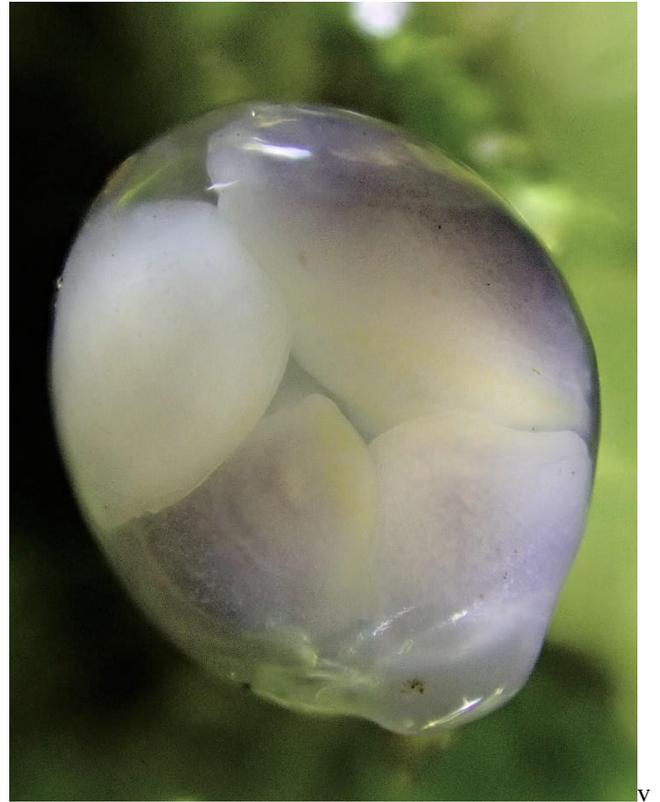


figure 5: One egg contained five viable embryos: this was just before hatching and orange sole mucus and body colour are both visible.



figure 4: Hatching started about 37 days after laying.

fed and grew well but were still very tiny when they were released. Clutch 5 produced 75 offspring in total. As well as eggs containing multiple embryos, one huge egg was seen that looked as if it contained two separate eggs inside, with one dark and one white embryo (front cover).

It was obvious even before the eggs hatched that there were a number of white individuals amongst them (figure 6). The first clutch produced the highest proportion of fully white slugs at *c.* 37% (figure 7). There were also a number of intermediate individuals as well as very dark ones, but since it was difficult to categorise the intermediate individuals, I counted all these as dark (figure 8). The white slugs had no apparent markings at all apart from the orange sole mucus and yellow pigment granules in their tubercles, and were actually very hard to find, being well camouflaged against the pale green leaves I fed them on (figure 9 and 10).



figure 6: Body colour was visible a few days before the eggs hatched.



figure 7: White slugs from clutch 1 showing the lack of any markings and the variation in body size (about ten weeks old).



figure 8: Dark slugs from clutch 1 showing the variation in body colour and size (about ten weeks old).



figure 9: The white slugs could be very hard to find on a pale green leaf (about three weeks old).



figure 10: About 12 weeks old: the white slugs still showed no markings, but bands were visible on the dark individuals.

The quintuplet egg contained one white and four dark individuals. From the five clutches I obtained 233 offspring, 44 of which were white and 189 dark (see table 1). There was some variation in the size of the offspring; this may have been due to eggs containing multiple embryos, which produced smaller hatchlings.

Pigment granules in the tubercles of the white slugs were visibly yellow, but the dark slugs had white or yellow granules (figure 11). This fits with what I have observed over the years of recording *Arion hortensis* at St Nicks; I have found dark individuals with white pigment granules,

but also some with pale yellow pigment granules but otherwise displaying diagnostic features of *A. hortensis* rather than *A. distinctus*.

Clutch	White	Dark	Total hatched
1	18 (37.5%)	30 (62.5%)	48
2, 3 & 4	15 (13.6%)	95 (86.4%)	110 (average ~36/clutch)
5	11 (14.7%)	64 (85.3%)	75
Totals	44 (18.9%)	189 (81.1%)	233

table 1: Proportion of white and dark slugs according to clutch.

The results of this breeding experiment confirmed what Tony Wardhaugh had found, that *Arion hortensis* can be quite variable in body colour, and that the colour has a heritable component. I have made a Flickr album with more images and a few videos: <https://flic.kr/s/aHBqjAxAwM>.

I will also note that these slugs were very well travelled. Since I did not want to miss any of the development, which was quite rapid, the first generation came on holiday with us to Skye where they hatched and also went to Suffolk as adults, before returning to their home in York.

#### Acknowledgements

I would like to thank Terry Crawford for looking through a draft of this paper and making several helpful comments and corrections.

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figure 11: Dark slugs could have either yellow or white pigment granules in their tubercles; all the white slugs had yellow pigment granules.

# Field meeting to Strawberry Hill Farm, Knotting, Bedfordshire – 10<sup>th</sup> June 2023

Peter Topley

Two members of the Conchological Society (Tom Walker and the author) met with members of the Bedfordshire Invertebrate Group to join a bioblitz at Strawberry Hill Farm, a rewilding project at Knotting Green, north of Bedford. Bedfordshire is one of the most intensively farmed counties in the UK. However, in the 1990s, an enlightened farmer turned his 150-hectare farm over to nature under the Countryside Stewardship Scheme. Some 25 years later, Strawberry Hill farm is reverting from arable fields to scrub and young woodland, providing habitat for large populations of an increasing diversity of species (see <https://www.wildlifebcn.org/strawberry-hill>). The bird communities have been monitored for around 25 years. The bioblitz, organised by Wildlife Trust BCN, was intended to provide records to contribute to baseline data on other groups for the site.

Strawberry Hill lies on a solid geology of Jurassic Oxford Clay. The soil is a type of neutral/basic pH diamicton (a sediment with mixed contents such as sand and gravel with local lenses of silt, clay and/or organic material) known as Oadby Member, laid down in the ice ages of the last two million years. The surface of the exposed soil in the open areas with long grass was very dry and did not provide a promising habitat for molluscs, so Tom and I concentrated mainly on more sheltered areas provided by trees (such as willow and ash) along the banks of (largely dried out) streams (figure 1). There were virtually no dead shells on the soil surface to give any hint of molluscan diversity. Tom found a small 'cache' of empty shells, possibly the result of rodent activity, under vegetation in a sheltered area next to a path (figure 2) consisting of *Oxychilus cellarius*, *Monacha cantiana* and a black-lipped *Cepaea* which, due to shape and size, was probably *C. hortensis* var. *fuscolabris* Kreglinger.



figure 1: Willows along a dried-out stream, Strawberry Hill Farm.



figure 2: Tom Walker searching in shaded area, Strawberry Hill Farm.

The apparent lack of any other molluscs, despite regular searching of likely areas, made us decide to concentrate on two small ponds, one near the north-east boundary of the

farm and a second larger pond to the east of the old farm buildings. On the way to the latter, we passed by an area of thick scrub where we enjoyed listening to several nightingales singing.

On arriving at what we assumed was the area of the first pond, it was little more than a muddy ditch filled with flood debris (figure 3). The only freshwater species to be found amongst the debris was *Anisus leucostoma* (dead shells only). Under a saturated and decaying log, the author found a single live *Galba truncatula* (figure 4) and the only slug found that day, *Arion subfuscus*. This was a typical habitat for *G. truncatula*, but the lack of many other living species (apart from *Succinea putris* on nearby grasses) was somewhat disappointing.



figure 3: Examining flood debris in a seasonal ditch.



figure 4: *Galba truncatula* in rotting wood, Strawberry Hill Farm.

The only accessible area of the larger pond near the farm buildings was shaded (figure 5). This produced many juvenile *Ampullaceana balthica* but nothing else (no Sphaeriidae, for example).



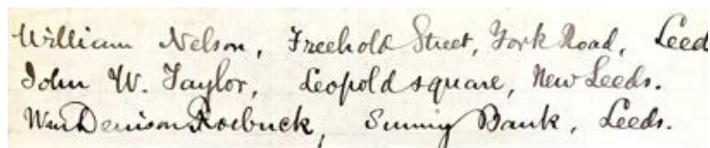
figure 5: Sampling at the larger pond, Strawberry Hill.

The day resulted in a small baseline list of just 13 species; however, it had been a very enjoyable field meeting. A possible future return visit by the author in more optimal conditions may have the potential to expand the species list.

In the previous issue, I wrote about two items from the CSGBI Archive. Firstly, a mystery letter referring to Tonbridge Castle (from my home town) (*Mollusc World* 62: 9), and secondly, ‘A look back at some members past ... and ‘passed’” (*Mollusc World* 62: 28–31).

Adrian Sumner was the first of three members to email some thoughts regarding the mystery letter. He interpreted it as ‘just an invitation to come out snailing with the writer’, pointing out that just because it was winter did not mean that snails could not be collected. While this is true, I do believe the reference to ‘Wednesday evening’ (in November), when it would definitely be dark, makes this unlikely. Another correspondent, Paul Dansey, tried to get round the winter issue by suggesting some form of indoor sporting event.<sup>1</sup> He considered whist, bridge, darts and billiards but ultimately plumped for chess (perhaps unduly influenced by the fact that he himself is a keen chess player).

Adrian took the ‘uncircumcised’ (more literally than I did) to refer to gentiles, and suggested that the author might be a Jewish conchologist. On this he could be right, but I don’t know how we could verify it! He also correctly pointed out that the letter was certainly not written by Roebuck, and I should have stated that explicitly in the article. Figure 1 shows a sample of Roebuck’s handwriting for comparison.

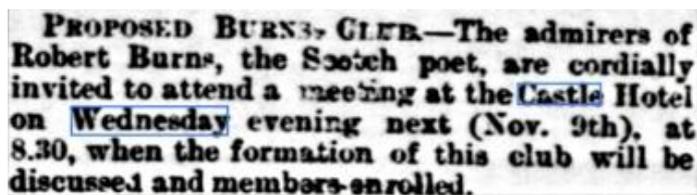


William Nelson, Freehold Street, York Road, Leeds  
John W. Taylor, Leopold Square, New Leeds.  
Wm Denison Roebuck, Sunny Bank, Leeds.

figure 1: Handwriting of William Denison Roebuck.

Adrian also wondered if there might be any ‘conchological Williams’ living in the area around that time. Well, there were plenty of CSGBI members called William, but the nearest were from London and none of these was, so far as I can tell, an ‘active’ member at the time.

A different, and intriguing, suggestion came from Paul Chambers. Through some excellent sleuthing, he found a reference in the local weekly newspaper, the *Kent & Sussex Courier*, for Friday 4<sup>th</sup> November 1892, to a meeting to consider the formation of a [Robert] Burns Club. The meeting (see figure 2) was to be held at the Castle Hotel<sup>2</sup>, in Tonbridge, on ‘Wednesday evening next (Nov. 9<sup>th</sup>)’. Now, to me, this seems like a plausible scenario to explain the letter<sup>3</sup>. The Castle Hotel, as the name suggests, was near the Castle and just across the river Medway, while the congruence of dates surely seems just too neat to be a coincidence? Do you believe so? As Butch Cassidy said to the Sundance Kid (according to the eponymous film) – ‘I will, if you will’!



**PROPOSED BURNS CLUB.—**The admirers of Robert Burns, the Scotch poet, are cordially invited to attend a meeting at the Castle Hotel on Wednesday evening next (Nov. 9<sup>th</sup>), at 8.30, when the formation of this club will be discussed and members enrolled.

figure 2: Extract from the *Kent & Sussex Courier* (see text).

So, we might well have the event ... but who was the letter from, and to whom? And, linked to that, if not

‘conchologically-related’, why is it in the CSGBI Archive? Those elements of the mystery remain.

Retrospectively, I noticed a neat, but completely unintentional, transition between the two articles. The very observant (and those with 20/20 vision) may have noticed at the bottom right of figure 2 in the second article (page 28), that the Rev. Robert Ashington Bullen was shown as a Tonbridge resident, albeit not at the time of the mystery letter.

The Reverend Bullen<sup>4</sup> (figure 3) was an Anglican minister with a wide range of natural history interests, with fossil Mollusca being a particular speciality. Towards the end of his life in 1910, and following the death of one of his daughters that affected him deeply, he moved to Hilden Manor<sup>5</sup>, Tonbridge. The fossil species *Sphaerium bulleni* Kennard, 1911 was named in his honour, but is now synonymised under *Sphaerium corneum*.



figure 3: Rev. Robert Ashington Bullen (1850–1912).

### Acknowledgements

Many thanks to Adrian Sumner, Paul Chambers and Paul Dansey for their thoughts and input.

### Notes

<sup>1</sup> Paul Dansey notes that at the time the letter was written the buildings were being used as a preparatory school. A few years later they became council offices.

<sup>2</sup> The bar at the Castle Hotel was an occasional personal haunt in my later teens! It is now a restaurant, called Verdigris, I believe.

<sup>3</sup> Paul Chambers also found another *Courier* report which confirmed that other Burns Clubs were active in Kent around this time, including in Maidstone and nearby Tunbridge Wells. Whether the Tonbridge one ever got going, I do not know.

<sup>4</sup> Further details on Rev. Bullen can be found, as follows: <https://www.cambridge.org/core/services/aop-cambridge-core/content/view/S0016756800115973> and <https://www.conchology.be/?t=9001&id=13919>.

<sup>5</sup> I regret to note that Hilden Manor, a Grade II listed building dating from the 14<sup>th</sup> and 15<sup>th</sup> centuries, is apparently now a Befeater Inn!

I was looking forward to exploring the eastern coast of Jersey during the big spring tides at the beginning of August. Warm sunshine, very low tides and little wind...bliss. Little did I expect to be battenning down the hatches against force 10 winds and donning full waterproof gear before heading out into the intertidal.

For a small (9 x 5 miles [14.5 x 8.0 km]) island like Jersey, the largest of the Channel Islands, one might expect that nowhere is too far away or takes too long to get to, but factor in an inordinate amount of roadworks, bizarre detours down narrow two-way lanes, and a relatively easy journey becomes a frustrating and stressful event.

That said, the prospect of spending a few hours alone at the coast exploring and looking for whatever the receding tide had left in its wake was enough to make me relax somewhat, even after having to reverse back up a winding lane several times to let people, who only seemed to know how to drive forward, pass so that I could continue to the shore.

I don't know how else to describe it, other than to say that it was blowing a hooley and tipping buckets as I climbed out of the van, and I got soaked putting my aquaboats and waterproofs on. At least it wasn't cold, I thought to myself, and the sun did shine. For a while at least, and it even stopped raining for a bit too.

Over the course of several days, I returned and slowly edged along the coast from the end of the pier at Gorey to the slip at La Grande Maison in St Catherine's Bay, at least to the places where access wasn't blocked either by roadworks or the tide, which on all days was held up by the south-westerly wind combined with low atmospheric pressure, meaning that the tide did not go out as far as it might have if the

conditions had been less windy and the air pressure was higher.

I returned to some of my favourite spots, where I had previously found *Archidoris pseudoargus* (Rapp, 1827) and *Aplysia punctata* (Cuvier, 1803), but found neither. What I did find, however, was a plethora of, among other things, *Onchidella celtica* (Audouin & Milne-Edwards, 1832) (figures 1–3), predominantly on damp, eastern-facing surfaces of rocks that had just been exposed by the falling tide, on the south-east coast from La Grande Maison slipway in St Catherine's Bay south-westwards to Anneport Bay. These pulmonate sea slugs are small enough to be overlooked, but once spotted they appear in abundance as they spread out to feed on micro-algae and biofilm from the lower to mid-shore. As the tide returns, they retreat to sheltered crevices and cracks and utilise a pocket of air they create by forming a cavity with their mantle to sustain them until the tide retreats again.

*Doris verrucosa* Linnaeus, 1758 (figures 4–7) (who doesn't love a warty doris?), which I first spotted as I splashed my way around the end of the pier below the Castle at Gorey, was tucked up, inactive, on mainly western-facing surfaces under rock overhangs and cracks in the rock outcrops that had just been exposed as the tide fell past the mid-shore. I found more individuals further to the east towards Anneport Bay. All were near patches of orange sponge, *Hymeniacidon perlevis* (Montagu, 1818), which they like to feed on. I found a solitary *Rostanga rubra* (figures 8–10), high up on an easterly-facing rock wall of a dark, damp and deep crevice in the mid-lower shore on the south-western side of Archirondel Bay near a patch of red sponge, *Ophlitaspongia papilla* (Bowerbank, 1866). All of this made being soaked and exhausted from being blasted by the wind worthwhile.



figures 1–3: *Onchidella celtica* (Audouin & Milne-Edwards, 1832), St Catherine's Bay, Jersey.



figures 4–7: *Doris verrucosa* Linnaeus, 1758, Gorey pier and Anneport Bay, Jersey (upper right: egg ribbon).

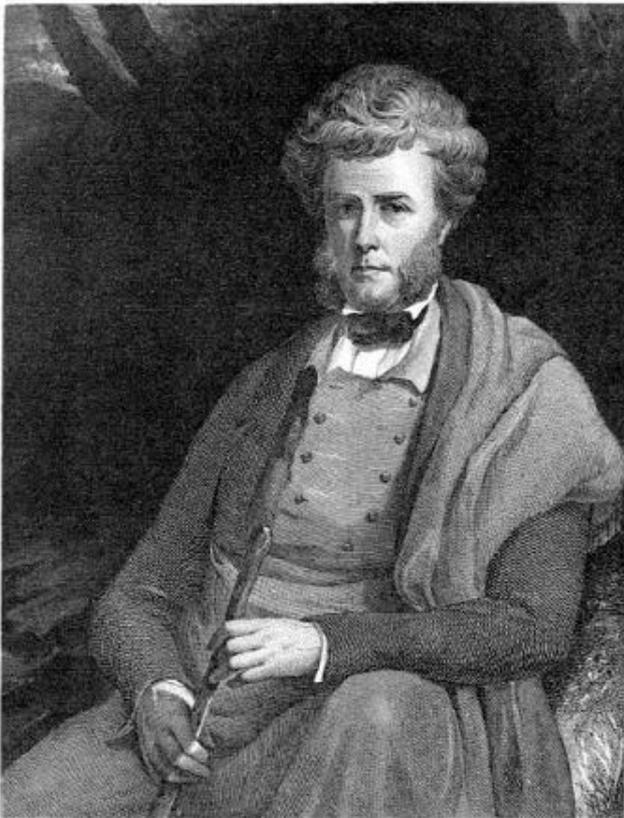


figures 8–10: *Rostanga rubra* (Risso, 1818), Archirondel, Jersey.

# Scottish 19<sup>th</sup>-century geologist Hugh Miller and molluscs, recent and fossil

June Chatfield

I have recently read *My schools and schoolmasters*, the autobiography of Hugh Miller published in 1854. Miller was born in 1802 in Cromarty in north-east Scotland just north of Inverness and his father, a sea captain, was drowned at sea when Miller was five so he was mentored by two uncles and cousins. The book is unfortunately deficient in dates and for some modern readers it could be ponderous in style, but it is in the Celtic bardic tradition with Miller being a natural storyteller at a time when reading books aloud was normal. He had a hard-working life as a stonemason and his serious geology, writing, adult education lecturing and addressing learned societies did not come to fruition until his later years in Edinburgh.



*Hugh Miller*

figure 1: Portrait of Hugh Miller from the frontispiece of *My schools and schoolmasters* (Public Domain).

## The seashore of Cromarty

Molluscs entered into his childhood years as he graphically recalled (Chapter 4) being taken to the seashore at low water in the Firth of Cromarty by his Uncle Sandy:

‘I delighted to accompany him on those occasions. There are some professors of Natural History that know less of living nature than was known by Uncle Sandy: and I deemed it no small matter to have all the various productions of the sea with which he was acquainted pointed out to me in these walks and to be in possession of his many curious anecdotes regarding them.’

Uncle Sandy was a skilled crab and lobster fisherman and knew about their behaviour from first hand but he also introduced the full range of rocky shore life to his keen nephew, and this included molluscs.

‘I was introduced also in our ebb excursions to the cuttle-fish and the sea-hare, and shown how the one when pursued by an enemy, discharges a cloud of ink to conceal its retreat [cuttlefish] and that the other [sea-hare or sea slug] darkens the water around it with a lovely purple pigment which my uncle was pretty sure would make a rich dye, like that extracted of old by the Tyrians from a whelk which he had often seen on the beach near Alexandria. I learned too, to cultivate an acquaintance with some two or three species of *Doris* [sea-slugs] that carry their arboraceous, tree-like lungs on their backs ... and I soon acquired a sort of affection for certain shells, which bore, as I supposed, a more exotic aspect than their neighbours. Among these were *Trochus Zizyphinus* [sic] with its flame-like markings of crimson on a ground of paley-brown; *Patella pellucida*, with its lustrous rays of vivid blue on its dark epidermis, that resemble the spokes of a firework breaking against a cloud; and above all, *Cypraea Europea* [sic], a not rare shell further to the north, but so little abundant in the Firth of Cromarty, as to render the live animal, when once or twice in a season I used to find it creeping on the *Laminaria* [oar-weed or kelp], at the extreme outer edge of the tide line, with its wide orange mantle flowing liberally around it, somewhat of a prize. In short, the tract of sea-bottom laid dry by the ebb formed an admirable school, and Uncle Sandy an excellent teacher ... and when, long after, I learned to detect old marine bottoms far out of sight of the sea – now amid the ancient forest-covered Silurians of central England, and anon opening to the light of some hillside among the Mountain Limestone of our own country – I have felt how very much I owed to his instructions.’

These excursions described probably dated to around 1810. Miller later became aware of the geological principle that the present is the key to the past. Experiencing living sea creatures in their habitat was of great help to the geologist he was to become.

Of his Uncle Sandy he said:

‘His facts wanted a vocabulary adequately fitted to represent them ... But they were all founded on careful observation ... perfect originality: they were all acquired by himself. I owed more, however to the habit of observation which he assisted me in forming ...’

As well as accurate observation at first hand, Miller responded aesthetically and started to write poetry. The local seashore (Chapter 5) also provided a playground, again around 1810, for boyhood games – making sand forts and using shells in lieu of model soldiers:

‘There was one of the commonest of the Littorinidae – *Littorina littoralis* [flat winkle] that in one of its varieties is a rich yellow colour and in another of blueish-green tint – which supplied me with soldiers enough ... well selected specimens of *Purpura lapillus* [common dog-whelk], just tipped on their backs with a speck of paint, blue or red ... made capital dragoons; while a few dozen of the slender

pyramidal shells of *Turritella communis* [auger shell] formed complete parts of artillery.’

### Freshwater mussels

After boyhood, a living had to be earned and here he was influenced by cousin George who was a stonemason (Chapter 8). Miller noted that his cousin’s stonemason work ceased in winter, giving him time to pursue his interest in the countryside, so he also signed up as an apprentice stonemason. Hard manual work, living out on the job, accommodation was primitive and lacking any comforts, but evenings were his own to explore his surroundings instead of drinking with his work mates. The work too was educational as he came to learn the characteristics of the various rocks that were being worked. It was in these evening walks that he encountered large freshwater mussels. The River Conon was about 20 miles south of Cromarty at the head of the Cromarty Firth, north-west of Inverness.

‘There are delightful walks in the immediate neighbourhood of Canon-side [sic]; and as the workmen – engaged ... on day’s wages – immediately ceased working as the hour of six arrived, I had during the summer months, from three to four hours to myself every evening ...’

He saw the value of ‘the quiet pleasure of intellect’.

Miller was learning about geology and landscape as well as natural history at first hand and so came to investigate the freshwater mussels (Chapter 10):

‘When the river was low, I used to wade into its fords in quest of pearl mussels (*Unio Margaritiferus*) [sic]; and, though not very successful in my pearl-fishing, it was at least something to see how thickly the individuals of this greatest of British fresh-water molluscs lay scattered among the pebbles of the fords, or to mark them creeping slowly along the bottom – when, in consequence of prolonged drought, the current had so moderated that they were in no danger of being swept away – each on its large white foot with its valves elevated over its back, like the carapace of some tall tortoise. I found occasion at this time to conclude, that the *Unio* of our river-fords secretes pearls so much more frequently than the Unionidae and *Anadonta* [sic] of our still pools and lakes, not from any specific peculiarity in the constitution of the creature, but from the effects of the habitat ... It receives in the fords and shallows of a rapid river many a rough blow from sticks and pebbles carried down in times of flood, and occasionally from the feet of the men and animals that cross the stream ... and the blow induces the morbid secretions of which pearls are the result.’

He was right in the cause of pearls being environmental but missed the fact that pieces of grit within the mantle are put out of harm’s way by being covered with nacre.

Quarry work brought him in contact with fossils, saying: ‘It was the necessity which made me a quarrier that taught me to be a geologist’. The quarries of the southern shore of the Firth of Cromarty contained no fossils but, moving to work on the northern shore of the Moray Firth which did contain them, his first fossils were in an outlier of Lias and in this bluish-grey limestone he found his first ammonite.

‘At the dinner hour I used to show my new found specimens to the workmen; but though they always took the trouble of looking at them, and wondered at times how the shells and plants had ‘got into the stones’ they seemed to regard them as a sort of natural toys, which a mere lad

might amuse himself in looking after, but which were rather below the notice of grown-up people like themselves.’

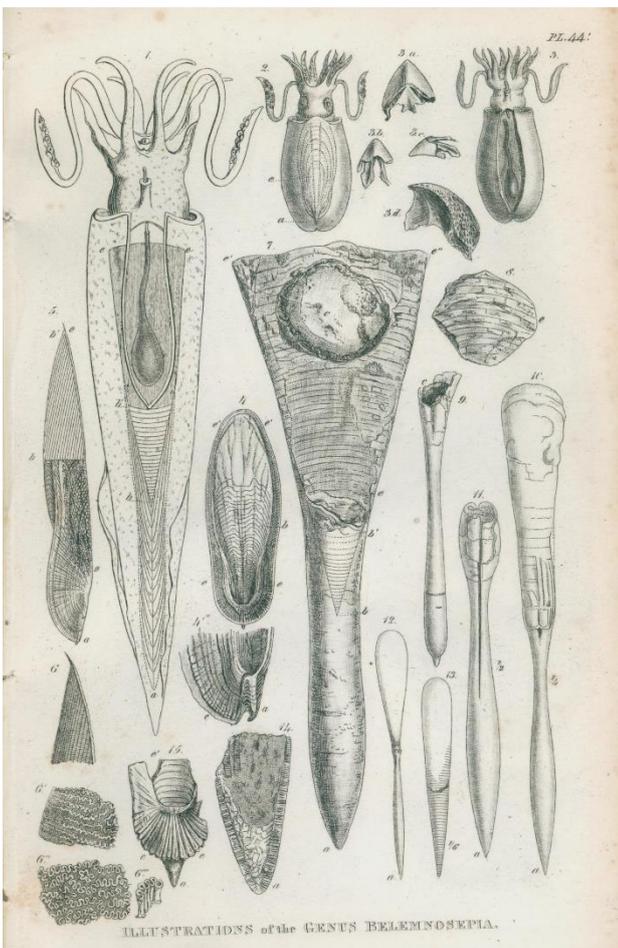
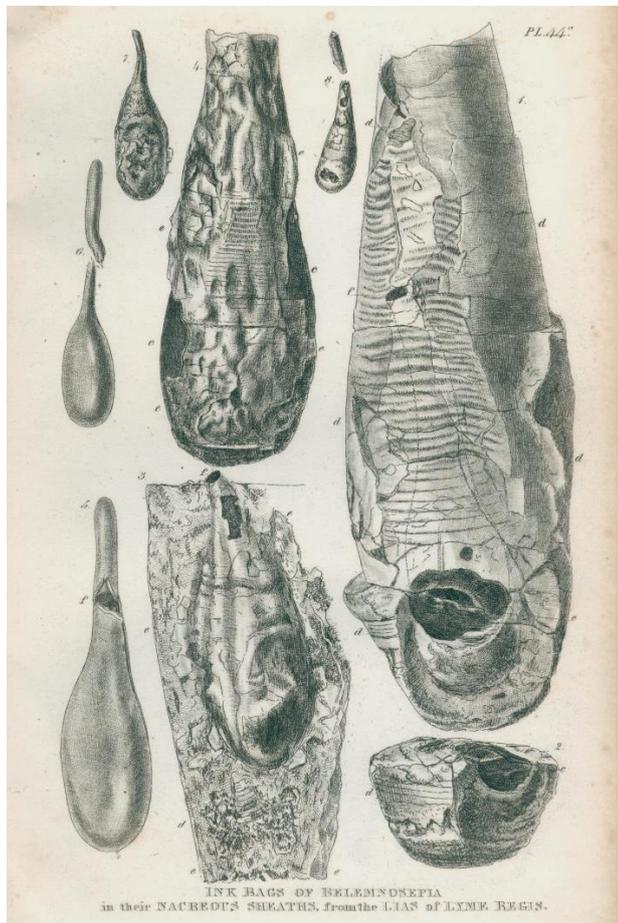
On a half-day holiday he visited the granitic gneiss and hornblend slate of the Hill of Eathie, where he found exposed for several hundred yards along the shore a Liassic deposit rich in fossils. These were younger rocks of Mesozoic age that are mostly found in England from Dorset to Yorkshire, but there are some small outcrops in Scotland in Cromarty, Ross and Sutherland. Many of these fossils were molluscs: ammonites, belemnites, bivalves and brachiopods.

All did not go well with his stonemason work. He suffered from lung trouble, probably due to inhaling dust from working the stone. In addition the supply of work dried up in June 1828. In seeking work in churchyards in Inverness he advertised in the *Inverness Courier* and was also tempted to offer some of his poems to their ‘poet’s corner’. He was introduced to the secretary of the Northern Institution: ‘Mr. George Anderson, the well-known geologist, and joint author with his brother of the admirable “Guide-Book to the Highlands”’. But this was without result. He then became proactive and gathered a collection of his poems and put them in the hands of the printer of the *Inverness Courier*, again initially without result, until he started writing letters to the *Inverness Courier*, and they attracted attention. He was encouraged by a Miss Dunbar to take up literature but he was more interested in following science, especially geology. Miller also became involved in religion and was influenced by two Scottish theologians, Thomas Chalmers and Alexander Stewart, the former also having an interest in geology. He had the chance with a friend, a schoolmaster at Nigg, to explore the Liassic deposits along the shore of the mouth of the Moray Firth (Chapter 21):

‘... with their vast abundance of cephalopodous molluscs – belemnite *abreviatus* and belemnite *elongatus*. I had learned that these curious shells once formed part of the internal framework of a mollusc more akin to the cuttle-fishes of the present day ... And the cuttle-fishes\* – not rare in at least one of their species (*Loligo vulgare*) [squid] in the Firth of Cromarty – I embraced every opportunity of examining. I have seen from eighteen to twenty individuals of this species enclosed at once in the inner chamber of one of our salmon-wears [sic]. The greater number of these shoals I have ordinarily found dead, and tinged with various shades of green, blue, and yellow – for it is one of the characteristics of the creature to assume, when passing into a state of decomposition, a succession of bright colours; but I have seen from six to eight individuals of their number still alive in a little pool beside the nets, and still retaining their original pink tint freckled with red, and these I have observed, as my shadow fell across their little patch of water, darting from side to side in panic terror within the narrow confines, emitting ink at almost every dart, until the whole pool had become a deep solution of sepia. Some of my most interesting recollections of the cuttle-fish [squid] are associated, however, with the capture and dissection of a single specimen.’

In parallel, geologists like William Buckland in other places had been using the anatomy of modern cephalopods to recognise ink sacs in fossil cephalopods (Buckland 1837) (figures 2a and b).

\*Victorian writers used the term cuttle-fish to include all cephalopods with ten limbs so including squid.



figures 2a and b: Ink sacs of fossil belemnites from the Lias of Lyme Regis, Dorset, from *Geology and mineralogy considered with reference to natural theology* by The Rev. William Buckland, Volume 2, Plate 44 (Public Domain).

For the purpose of dissection, Miller had to kill the squid, and went on to justify the ethics of taking the life of just one individual for scientific discovery over the eating of dozens of oysters raw and living. The anatomy of the squid coupled with observing its movement and use of ink when in retreat enabled him to interpret fossil cephalopods as once living animals. He recalls an incident of how a squid was beached:

‘I was walking, one very calm day, along the Cromarty shore, ... when I heard a peculiar sound – a squelch, ... and saw that a large *loligo*, fully a foot and a half in length, had thrown itself high and dry upon the beach. I laid hold of it by its sheath or sack; and the *loligo*, in turn, laid hold of the pebbles ... I subjected one of my hands to its grasp, and it seized fast hold; but though the suckers were still employed, it made use of them on a different principle. Around the circular ring of each there is a fringe of minute thorns ... in dealing with the hand – the thorns were laid bare, like the claws of a cat ... They failed to penetrate it [the skin] for they were short ... [it] took at least a very firm hold.’

The suckers with hooks resemble those of some tapeworms. Liassic limestone of the Jurassic period is mostly known in a belt from Dorset on the south coast to the east coast of Yorkshire but there are a few outcrops in northern Scotland (Friend 2012). Miller noted the abundance and variety of cephalopods in these deposits compared with the modern fauna, and also fossil reptiles and amphibia, but his greatest discovery was the fossil fishes found in the older Palaeozoic strata of Old Red Sandstone, of which he made a collection (now in the National Museums of Scotland in Edinburgh). The Old Red Sandstone is in the Devonian period, formalised in Miller’s lifetime by the Scottish geologist Rodney Impey Murchison. Whilst Miller was still working as a stonemason out of touch with the world of geology, Murchison had published on fossils in the Liassic deposits in Sutherland, Ross and the Hebrides in the north of Scotland, although using the term Oolitic (Murchison 1828). Miller’s fish fossils were brought to the attention of the American palaeontologist Louis Agassiz of Cambridge, Massachusetts, who commended Miller’s work, and also that of Murchison, with whom he corresponded in his later years.

It was meeting the girl that he wanted to marry that was the catalyst for Miller’s career change, with a need for an increase in income. He was appointed accountant to a new agency branch bank in Cromarty and went to Edinburgh for induction and work experience at a nearby branch, returning to open the branch in Cromarty two months later. He duly married in 1837 and they lived in Cromarty until 1840. His wife was well educated but in restricted financial circumstances as her father had died. She actively participated in posthumous editions of Miller’s books.

About this time, he got involved in religious controversy and was invited to edit and partially write for a new religious newspaper of the Free Church, *The Witness*, necessitating a move to Edinburgh. In the newspaper, with a free hand as Editor, he published a series of his articles on geology and the fossils that he had found. These were reused and modified as essays for periodicals and adult education lectures, and later collated into books: *The Old Red Sandstone* (Miller 1841) and *Testimony of the rocks* (Miller 1857), the latter published posthumously. Living in Edinburgh he came to meet and correspond with geologists of the day, including Murchison who became Director of the Geological Survey in 1855. His autobiography, *My schools and schoolmasters*, followed in 1854. All of Miller’s books

have been reissued and are still available. The reissue of *Testimony of the rocks* in 2001, to mark the bicentenary of his birth, includes an editor's preface by the Reverend Philip Foster and an introduction by Dr Michael A. Taylor of the National Museums of Scotland, giving modern religious and geological appraisals of Hugh Miller.

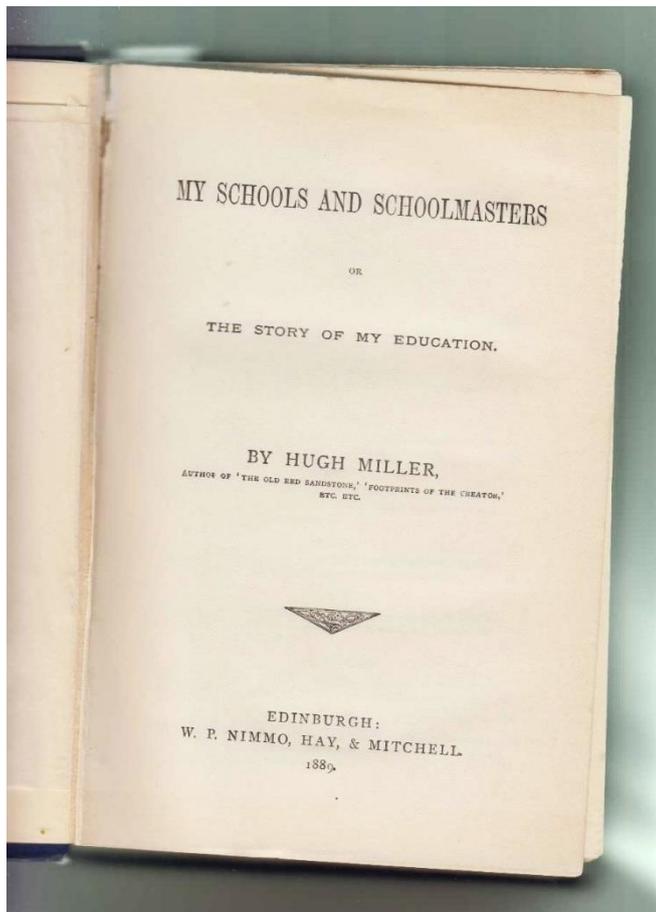


figure 3: The title page of *My schools and schoolmasters*.

Miller's strength lies in his careful observation, years of collecting fossils from the rocks in which they occurred and

his gift for writing. He lived in pre-Darwinian times, as *The origin of species* was not published until after his death in 1856. However, he did not see any reason for geological knowledge to go against his Christian faith that was strongly based on ethics and hard work. He did not interpret the Bible literally and was aware, both from his own fieldwork and the work of others, that there had been several periods of extinction and subsequent waves of new species and groups, and that this involved many years of time, not just the seven days of *Genesis* which he regarded as a metaphor.

By the time that Miller was in his early days as a stonemason, the surveyor William Smith (father of British geology), known as 'Strata' Smith, had worked out the age sequence of the various strata using fossils and the position of the strata in relation to each other, which led to his first geological map of England, Wales and parts of Scotland produced in 1815. The dating of the rocks had to wait until advances in technology in the next century. Presenting geology and fossils to a general readership, Hugh Miller played an influential but relatively unrecognised role in the mid-19<sup>th</sup> century. It all had started with his Uncle Sandy taking him rock pooling as a child.

How do his observations on the occurrence of marine molluscs and freshwater pearl mussels compare with modern findings in north-east Scotland?

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## Hastings shell sellers of the past

*Peter Topley*

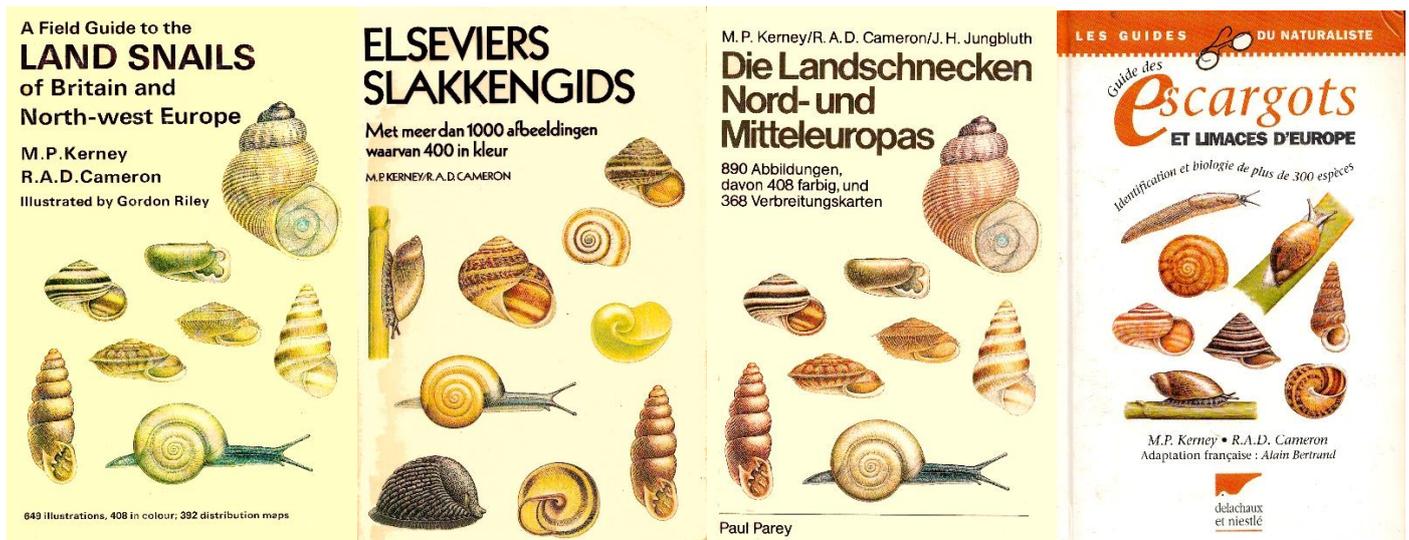
In my childhood I can remember there being more seaside shops selling tropical shells than there are today. This is probably a good thing, as over-exploitation of the more decorative species, accompanied with deterioration of the marine environment, has led to a drastic decline of some species and an increasing number of countries now impose tighter regulations on their harvesting and export. However, back in the early years of the 20<sup>th</sup> century this was not the case. I was interested to learn, on a visit to the Hastings Fishermen's Museum, a small independent museum dedicated to the fishing industry and maritime history of Hastings in East Sussex, that in the early 1900s there were many stalls selling shells on the promenade. Stalls were set up by fishing families to supplement their income by selling tropical shells to tourists.

This postcard, showing what it calls the 'oldest shell stall in Hastings', is titled 'Treasures from the deep' and is dated 1906. It is reproduced here with the kind permission of the museum.



# Writing the *Field Guide to the Land Snails of Britain and North-west Europe*

Robert Cameron



The sad news of the death of Michael Kerney (a full obituary by Richard Preece is in the most recent number of *Journal of Conchology* 44 (5): 477–482) provoked me into delving into my archive of letters relating to the book universally known as ‘Kerney and Cameron’. They are a reflection on both the character of the times and the unique talents and knowledge that Michael brought to bear on its writing, in which I was very much the junior author.

The times: it is startling to find how much has changed since that pre-digital era. We exchanged handwritten letters as the project advanced and I certainly did not keep copies of my own, while having around 60 letters from Michael in his unmistakable hand. We met only occasionally. The production of illustrations, all done magnificently by Gordon Riley, was a more complex and slow-moving affair than it would be today.

It is sobering to think that the process started in 1973, 50 years ago. I was approached by Collins, as they then were, to see if I would be interested in writing a ‘Field Guide’. The approach was prompted by my PhD supervisor, Arthur Cain, who had long been intending to produce a book in the ‘New Naturalist’ series, an outcome realised only years after his death. I can only hope that he would have approved of my final product, *Slugs and Snails*.

I recall the saying of A.E. Ellis, that his *British Snails* (1926) was a ‘youthful indiscretion’. I was certainly young, but more cautious. I knew that the task was beyond me. So, I wrote to Michael. His reply was both moving and characteristic:

*‘My first reaction was to say no (pressure of work, lack of competence, etc – and I am basically rather a lazy person). But of course, there is a great need for such a work, and it seems to me that the ultimate success of any project to map European molluscs on an international basis must depend on the availability of books of this kind. This very point was made forcibly by Frank Perring in the annual BRC meeting of biological societies which I attended last Saturday. So, I think, yes, I am definitely interested in the idea.’*

(Letter to RADC, 11<sup>th</sup> November 1973)

Lazy? By 12<sup>th</sup> February 1974, I received this:

*‘...I am constructing a map for every species, even where the information is very shadowy ... do we as a matter of policy exclude subspecies ... only then to send the lists and maps round, touting for comments. I think the response will be much more vigorous.’*

We divided the tasks; to Michael fell the majority of the species and all issues of nomenclature and distribution, to me the slugs and what was then the Helicidae, broadly Helicoidea today, and most of the introductory material.

By December 1974, he was telling me:

*‘The main problem is getting specimens that are fresh, clean and typical in every respect – or at least conforming with one’s abstract, intellectual idea of what the species should look like.’*

It was mainly Michael who wrote to experts in other countries and who obtained specimens from museums and private collections for Gordon to illustrate. I was mainly involved in getting live specimens, especially slugs, to Gordon in Hinckley, no great distance from Birmingham where I worked.

Lazy? I reflect that while doing this, Michael was also completing the *Atlas of the Non-Marine Mollusca of the British Isles* (1976), again in a pre-digital age, the culmination of his drive to achieve a satisfactory level of 10-km square mapping.

The response from others was indeed vigorous. While mostly very positive, it will come as no surprise to hear that there was far from universal agreement on the status of some notional species, and still less on the thorny issue of nomenclature (some things do not change!). It will also come as no surprise, to those old enough, to hear that the inimitable Henrik Waldén featured in many of the letters from later years.

The boundaries were determined, arbitrary, but needed at the time, for as the Mediterranean or Carpathians were approached, numbers soared and taxonomy became more contentious. Similarly, although we included a limited

number of anatomical drawings for some slugs and vitrinids, the limitations of a field guide for amateurs were clear. Only now do we have guides using anatomy and the support of molecular data, like the magnificent *Slugs of Britain and Ireland* (2014) by Ben Rowson, James Turner, Roy Anderson and Bill Symondson. In view of the increasing number of introduced species and their spread, we can be amused and instructed by the changing times: as Michael wrote in January 1975:

‘Zonitoides arboreus, Lehmannia valentiana and L. nyctelia ... only once or twice have been recorded in open habitats ... common in greenhouses.’

After all these years, it came as a surprise to me that publication did not occur until 1979. On reflection, though, the mass of original illustrations and the succession of changes to nomenclature and status made this inevitable. The people at Collins changed and the public appetite for such guides appeared to wane slightly. A Dutch edition, more or less a straight translation, appeared the following year: *Elseviers Slakkengids* (1980), Elsevier, Amsterdam/Brussels, translated and edited by Edi Gittenberger. It was followed in 1983 by Kerney, M.P., Cameron, R.A.D. and Jungbluth, J.H., *Die Landschnecken Nord – und Mitteleuropas*, Paul Parey, Hamburg and Berlin.

This must be regarded as the true finished product, encompassing, as it does, more countries to the east and south. It added nearly 100 more species. It was touching to hear from Jürgen Jungbluth in 2019, recalling his work and asking for Michael’s address. The final chapter was the

publication of a French edition, substantially revised and edited by Alain Bertrand, in 1999: *Guide des escargots et limaces d’Europe*, Delachaux et Niestlé. Strangely, it excluded those countries added by Jungbluth, but extended coverage to Mediterranean France.

Time passes. In an age when taxonomic revision has grown with the advent of molecular systematics and a far greater attention paid to soft part anatomy, I find it slightly disturbing that I see repeated citations of the ‘Field Guide’ as the authority for nomenclature, although disputes over names will probably outlast those far younger than me. The ‘Field Guide’ and its adaptations nevertheless served their purpose, for mapping schemes are now commonplace in European countries, a fitting testimony to Michael Kerney’s vision.

It has its successors. I have on my shelves guides to the national faunas of Germany, Sweden, Finland, Latvia, Poland, the Czech Republic and Slovakia, Portugal, Cyprus, the ex-USSR, Israel and Turkey. Modern technology means that high quality photographs are both possible and affordable, and digital maps are easy to format. There are others, including those made before 1979. Of course, there is also F. Welter-Schultes’s *European Non-Marine Molluscs: a Guide for Species Identification* (2012), Planet Poster Editions, Göttingen. It features more than 2000 species, including those from freshwater, and is genuinely pan-European, although my feeling is that this fauna is too vast to be contained in a field guide. More professional volumes too, but these will be daunting to the amateur.

## Big brother is watching you...

Having spent a couple of days at Shaldon in South Devon, I was surprised to see an information panel on some railings (right) whilst out doing some specimen collecting and recording. It is not the first time that I have collected there but I had never noticed any such panels previously.

I know that the information is probably more about the public collection of shellfish for consumption and maintaining the viability of commercial beds. I am more concerned with the way the information panel has been done. There is nothing about the reasons for such measures (e.g. the conservation of stocks, etc). It gets straight into the heavy-handed aspects of what you can and cannot do, collecting limits and penalties.

It somewhat spoils my time there, as I felt I should have been constantly looking over my shoulder to see who was watching, or expecting a tap on the shoulder by someone asking to see my bag, or what I was collecting.

The countryside and open spaces are thought to be places for leisure, pleasure and mental wellbeing! Apparently not on the Teign estuary at Shaldon, because someone might be watching you...

Adrian Brokenshire

**Public Collection of Shellfish River Teign**

**Permitted Gathering**  
The areas you can legally take shellfish from are indicated here. Failure to stick to the permitted area may result in prosecution.

**KEY**

- You must avoid this area as it is commercially sensitive. Collecting shellfish from this area can result in prosecution.
- No mussels can be taken from this area. Collecting mussels from this area can result in prosecution. Contact D&S IFCA for more information.
- Only cockles and clams can be taken from this area.

**Further Information**

D&S IFCA Temporary Closure orders –  
[www.devonandsevernifca.gov.uk/Enforcement/Legislation/Temporary-Closure-of-Shellfish-Beds](http://www.devonandsevernifca.gov.uk/Enforcement/Legislation/Temporary-Closure-of-Shellfish-Beds)

Water Quality Information –  
[www.cefas.co.uk/data-and-publications/shellfish-classification-and-microbiological-monitoring/england-and-wales/shellfish-monitoring-results/](http://www.cefas.co.uk/data-and-publications/shellfish-classification-and-microbiological-monitoring/england-and-wales/shellfish-monitoring-results/)

Commercial Collection –  
[www.food.gov.uk/business-guidance/industry-specific-advice/fish-and-shellfish](http://www.food.gov.uk/business-guidance/industry-specific-advice/fish-and-shellfish)

Protect Stocks  
Please do not collect small oysters. All winkles must be above 16mm.

**Hand Gathering Shellfish**

**The Food Safety and Hygiene (England) Regulations 2013**

1 small bag of shellfish per person per day (less than 5kg)

You should not take more than one small bag of shellfish from this river per day. This includes the shell, even where the shell is left on the beach.

Any person found to be removing more than 5kg\* from the river may –

- Have their details taken and their vehicle searched
- Have all their shellfish seized
- Have their equipment seized
- Be prosecuted for illegal collection

\*Shellfish collectors are encouraged to carry a set of scales to weigh shellfish

Shellfish may be collected for personal consumption only. It is an offence to sell or give shellfish removed from the River Teign to another person or business without the consent of Teignbridge District Council Environmental Health.

**Health Warning**  
Avoid collecting shellfish after heavy rain as its safety may be affected. Shellfish can contain harmful bacteria and viruses and should be cooked for at least 3 minutes before eating.

Devon and Severn IFCA  
Brixham Laboratory  
Freshwater Quarry  
Brixham  
TQ3 8BA  
Tel: 01803 854648

Teignbridge District Council  
Environmental Health  
Newton Abbot  
TQ12 4XX  
Tel: 01626 215420

The information in this notice is subject to change at any time  
Last updated on the 10.03.2021

The earth has many fragile and endangered ecosystems, and these include the *lomas* of coastal Peru and northern Chile. The Spanish word *lomas* means ‘hills’ and refers to those on the arid desert coast that form pockets in the land which trap the fog or *garúa* that cloaks the coast in the austral winter (May to November). This is brought by onshore winds crossing the cold Humboldt Current that runs up the west coast of Chile and Peru from Antarctica (there are penguins in Peru). These ‘fog oases’ or *lomas* (figure 1) sustain vegetation purely from the moisture in the air; the coast receives next to no rainfall except in El Niño years. Unusually for the tropics, the temperature is temperate.



figure 1: The Atiquipa *lomas* in southern Peru, shrouded in fog. (photo: Luis Balaguer, CC-BY-SA-3.0)

In northern Chile and southern Peru, the *lomas* have been isolated long enough to support endemic species, including snails. Six thousand years ago the coast north of Lima was wetter and the fog oases formed later than those further south, and do not support the same degree of endemism. Nevertheless, they house the remnants of a once widespread coastal community of land snails which are showing signs of incipient speciation.

The *lomas*, which range in size from small patches to more extensive areas, were formerly more numerous but now their survival is threatened. Uncontrolled grazing and wood-cutting (the branches of trees and shrubs trap most of the moisture) have already destroyed many of them, but around 5000 ha of the Lomas de Lachay, some 100 km north of Lima, were made a national reserve in 1977 – which itself is now threatened by uncontrolled tourism.

Fifty-two years ago in 1971, when a small party of us from the London Natural History Museum were in Peru on an insect-collecting expedition, one of our number made a detour to the Lomas de Lachay and collected some snail shells for me. Time to dust them off and take another look!

They represent four species of the neotropical family Bulimulidae, superfamily Orthalicoidea: most medium- to large-sized Peruvian land snails are of the ‘pointy’ variety rather than round like ours. Eighteen species of molluscs (all gastropods) have been recorded from the central coastal *lomas* (Aguilar 1976, 1981) with just ten from the Lomas de

Lachay. Allowing for two now ubiquitous European invasives (*Cornu aspersum* and the slug *Milax gagates*), my late friend Colin Vardy managed to collect half of the species present in the Lomas de Lachay: two species of *Bostryx* (the dominant genus in the *lomas*) and two of *Scutalus* (which has a more expanded peristome). These two genera are endemic to South America and are mostly found on the western slopes of the Andes and the coast of Peru; molecular genetics shows that they form a monophyletic group (Ramírez *et al.* 2009).

### *Bostryx conspersus* (G.B. Sowerby I, 1833) (figure 2)

This species is widely distributed in the *lomas* of central and southern Peru and is the dominant species in the *lomas* of the central coast (Ramírez *et al.* 1999). The shell is relatively thin and variously striped with white spots or irregular lines; some individuals are plain brown. The surface sculpture is also variable in the form of longitudinal striae or ridges. The snail aestivates underground or in rock crevices during the dry (non-foggy) summer season. Because it is relatively common, it has been selected as an indicator species to assess the impact of the increasingly ferocious El Niño Southern Oscillation (ENSO) events on the Peruvian coast. A study undertaken on the effects of the 1997–98 El Niño in the Lomas de Lachay (Ramírez *et al.* 1999) showed that the activity period of the snails was delayed and shortened in 1997, whereas in the summer of 1998 *Bostryx conspersus* did not aestivate and underwent a population explosion (largely counteracted by rodent predation).



figure 2: *Bostryx conspersus* (scale in mm).

### *Bostryx scalariformis* (Broderip, 1832) (figure 3)

This species is endemic to the coastal *lomas* of central Peru and is currently restricted to just four, including the Lomas de Lachay. The snail lives on sandy ground and the shell is white and prominently ribbed, rather like a wentletrap. These ribs are thought to be an adaptation to reflect the light and avoid excessive heat (Aguilar 1981) although they appear to be largely worn away in larger individuals. Fragmentation of its habitat combined with a reduction in population size has led to genetic differentiation, and two geographically isolated shell morphotypes have been described. Shells from the neighbouring Lachay and Cerro de Agua *lomas* have wider spaced ribs on a more conical

shell than those from the Ancón and Pasamayo *lomas* and these differences are reflected genetically and attributed to environmental conditions, the Ancón-Pasamayo *lomas* being at a higher altitude and with higher humidity (Romero Condori 2008).



figure 3: *Bostryx scalariformis* (scale in mm).

#### *Scutalus proteus* (Broderip, 1832) (figure 4)

This is the largest native land snail species in the *lomas* (Aguilar 1981) and its shells can exceed 50 mm in height. As a result they are often found in archaeological deposits on the coast together with shells of marine molluscs and other food waste. This species is restricted to the north-central coastal region of Peru (Breure 1979: 83) but is not limited to the *lomas*, being also found in the river valleys. It varies considerably in the extent of its surface sculpture, with some variants appearing to be coarsely granulated. The specimen from the *lomas* is finely reticulated and appears to be a juvenile shell with a height of only 34 mm; the reticulation would be more pronounced on the adult body whorl. Geographical isolation of populations in the valleys and in the *lomas* since most of the coast became a waterless desert is no doubt contributing to speciation: according to MolluscaBase (2023), three subspecies have already been described.



figure 4: *Scutalus proteus* (juvenile) (scale in mm).

#### *Scutalus versicolor* (Broderip, 1832) (figure 5)

As its name suggests, the patterning of this species is a random brown-and-white mottling of stripes and spots. It lacks the reticulate surface sculpture of its congeneric and instead is finely sculpted with longitudinal striae. It shares the same distribution as *Scutalus proteus* (Breure 1979: 83) and also shows some regional variation as the result of geographical isolation: the snails from Lomas de Lachay have been awarded subspecific status: *Scutalus versicolor lachayensis* Weyrauch, 1967.



figure 5: *Scutalus versicolor* (scale in mm).

Genetic diversity may help some species such as *Bostryx conspersus* to adapt to global warming, but the outlook for those with a more limited distribution and small population size such as *Bostryx scalariformis* is bleak. Climate change is not the only challenge the *lomas* snails will have to face. Invasive species, rubbish disposal and urbanisation in the form of shanty towns spilling into some of the *lomas* in the Lima region and the damage caused by this, unrestricted tourism and relative lack of conservation efforts suggests that they will soon be lost (Ramírez & Ramírez 2013). Away from the towns, there is more hope. Conservation groups are working to restore and preserve the Lomas de Atiquipa (figure 1) in southern Peru, and the project includes the use of nets to capture the moisture in the fog to provide drinking and irrigation water for local communities.

I wonder what Colin would find if he went looking for snails in the Lomas de Lachay today – *Cornu aspersum*, probably. I wonder if the *lomas* will still exist in another half-century.

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All those listed are open access and can be found on the internet.

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## Charles Oldham and a conchological coincidence

Brian Goodwin

I frequently re-read, or at least scan through, old copies of *Mollusc World*. This is mainly out of general interest, but also to check that articles I am planning to write have not already been written!

On a recent foray into the past, I scanned through *Mollusc World* from November 2003, where my interest was especially taken by the piece by Peter Dance and J.G.J. Kuiper, entitled 'On a photo of Charles Oldham' (*Mollusc World* 3: 18–19).

This article, which was referring to their 2002 paper entitled 'B.B. Woodward and the "Pisidium affair"' (*Journal of Conchology* 37(6): 635–50), had a photo of Oldham (figure 1) which the authors had previously included in their paper and which they had suggested was taken in the Lake District.



figure 1: Charles Oldham searching for *Pisidium* spp. – but where?

A correspondent soon disabused the authors of the Lake District as the location and convincingly suggested that the lake was one of several along the Findeln valley, a side valley above Zermatt in the Pennine Alps. A search of the Woodward collection in the London Natural History Museum in 1960 by Kuiper had previously revealed a single specimen of *Pisidium hibernicum* [now *Euglesa parvula* (Westerlund, 1873)] collected by Charles Oldham at 'Riffelsee, Zermatt, Switzerland 6.IX.37'. This led the

authors to accept that 'the photo of Charles Oldham was probably taken on 6<sup>th</sup> September 1937, in the shadow of the Matterhorn in Switzerland, not in the English Lake District'.

This must have been at the back of my mind (a rather cluttered repository it must be admitted) when I came across a postcard of the Matterhorn (figure 2) in the J. Wilfrid Jackson Archive at Buxton Museum & Art Gallery, where I work as a volunteer.



figure 2: Postcard of the Matterhorn, from Charles Oldham to J. Wilfrid Jackson. (Courtesy of Buxton Museum and Art Gallery)

Lo and behold, turning the card over, there was a message from Charles Oldham to Jackson, concerning the possible disposal of the Conchological Society's library. Oldham was in Switzerland and, as figure 3 shows, the postcard was dated 9<sup>th</sup> September 1937, three days after the '*Pisidium hibernicum*' was collected.

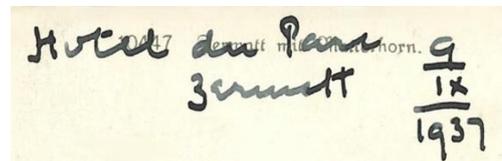


figure 3. Address and date from Oldham's postcard.

Thus, 86 years after the actual event, and more than 20 years after Dance & Kuiper's two articles, we can finally be certain that Charles Oldham was indeed in Switzerland, and posing in front of the Matterhorn in 1937.

## Is this one for 'The Conchological Society book of records' or do I contact 'Guinness'?

Stephen Green

Last week I saw a mouse in the back garden. So, to try and avoid the invasion of our bungalow, I purchased eight humane mouse traps and placed them around the perimeter of the property.

On checking them I could see that one trap had been sprung, but the culprit did not appear very mouse-like. It wasn't. On inspection the trap had been activated by a slug. I could hardly believe it and on opening the mouse trap I found THREE captive slugs.

Can anyone beat that?

Hampshire, August 2023



On 31<sup>st</sup> July at 8.50am I saw a juvenile *Ambigolimax* sp. inside the open flower of a courgette in my garden and it was still there at 10.20am (figure 1). This was a female flower which was already fertilised as it had a developing courgette of 3.5 cms beneath it. A marmalade hoverfly (*Episyrphus balteatus*) was also visiting the adjacent male flowers with longer flower stalks. At 8pm the slug had gone.

On 3<sup>rd</sup> August an *Ambigolimax* sp. appeared again but this time inside a pumpkin flower nearby and there were signs of feeding damage to the edges of the petals on 14<sup>th</sup> September (figure 2). Later, on 24<sup>th</sup> September, two male pumpkin flowers had been demolished with the sepals and petals completely eaten away (figure 3). On the same day, upon opening a partly closed pumpkin flower, an adult white-lipped snail (*Cepaea hortensis*) was found inside (figure 4). The main stem bearing the latest flowers had been severely rasped on 26<sup>th</sup> September, probably terminating subsequent growth on that plant.

When I first saw the slug inside the flower I wondered about malacophily, pollination by slugs and snails, having heard about this in my college days but decided against it in this instance. Courgettes and pumpkins are monoecious and have separate male and female flowers, but the male flowers open first (androgyny) and the female flowers later as an adaptation to inhibit self-fertilisation. On 10<sup>th</sup> August I saw a honey bee (*Apis mellifera*) and some ants deep inside the pumpkin flower. I concluded that it was the sweet nectar that was being sought as energy food by hoverflies, bees, ants and probably slugs. The massive feeding damage to petals seems to have been the work of snails and also to the stem, as I have seen stems of cow parsley being similarly rasped by the Kentish snail (*Monacha cantiana*) at Juniper Hall in Surrey.

More first-hand observations on feeding in slugs and snails in their natural habitats are needed.



figure 2: Pumpkin petals with mollusc damage.



figure 3: Two demolished male flowers of pumpkins probably eaten by a snail.



figure 4: *Cepaea hortensis* inside a pumpkin flower.

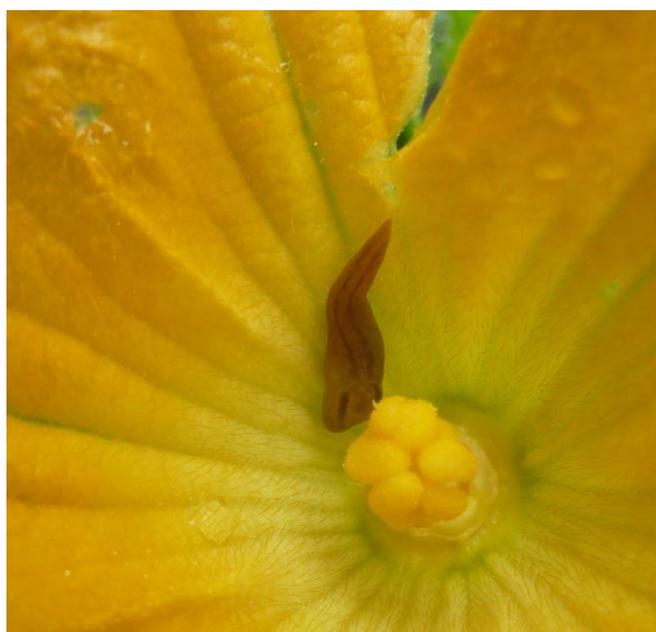


figure 1: *Ambigolimax* sp. inside a courgette flower.

## 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

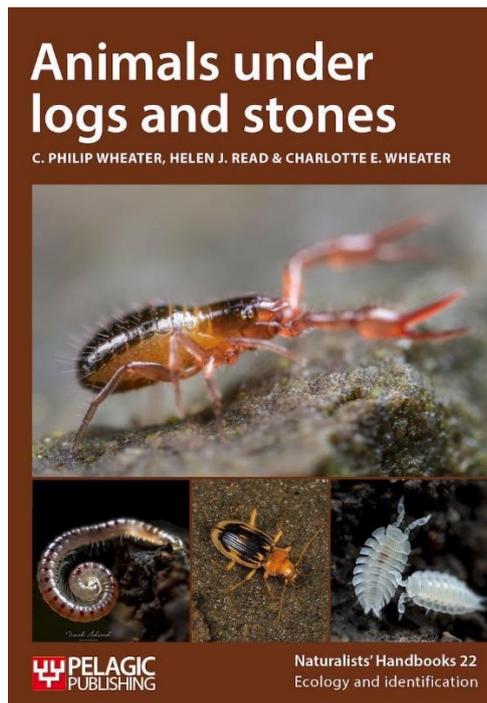
- shells for sale
- exhibits/prizes
- dealers' tables
- all welcome – beginners to experts

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)

# Book Review: *Animals under logs and stones (Naturalists' Handbooks 22)* by C. Philip Wheeler, Helen J. Read and Charlotte Wheeler

Pelagic Publishing, 2023, ISBN 9781784274177, 344 pages (softback). Publisher's price: £30.00



Many of those who search out and record non-marine molluscs no doubt regularly look under logs, stones and other refugia. In so doing we inevitably come across many other cryptozoa: anything from tiny mites to toads and small mammals. We may not necessarily want to identify these to species level, but we may be curious about them and want to discover more.

The first edition of this book was published 27 years ago. In an interview by Luanne Wilkes of NHBS with two of the authors (Philip Wheeler and Helen Read)<sup>1</sup>, they explain the background to this new edition: 'There have been many changes in taxonomy over the last few decades, not least because of major advances due to the use of molecular techniques more recently. Also, more information is now available on the distribution of many species that are found under logs and stones. Because of increased interest in many of the groups found under logs and stones, it is now possible to expand the range of the book from the original 17 identification keys to 25 in the new edition. With modern publishing techniques we are now able to include many photographs to illustrate both the species and habitats covered by the book.'

The introduction includes a brief overview of the different microhabitats and the faunal interchange between these that is provided by anything that rests on or near the ground surface, from 'traditional' logs and stones to brick rubble and corrugated iron. A 'high end' taxonomy classification table is provided, with common names which I found useful reminders (for instance, snake flies are in the order Raphidioptera).

A chapter on environmental conditions is followed by a general introduction to the cryptozoa: activity patterns, life cycles and biology, with examples illustrated using some excellent colour photographs.

By far the largest section of the book are the keys (177 pages), which are characteristic of the *Naturalists' Handbook* series. These begin with instructions on using the keys and a useful pictorial 'guessing guide', a starting point for finding the correct key. This is backed up by the first dichotomous key which is to the major invertebrate groups. This again refers you to the individual group keys, but some invertebrates key out here, such as leeches and amphipods.

The keys themselves are clearly written and there are, for example, separate keys for slugs and snails, noting how possible overlaps (slugs with shells and semi-slugs) have been handled. The keys are formatted so that a space is left on the left-hand side of each page for drawings of diagnostic features, but these are primarily descriptive keys and illustrations are only included where they are necessary to supplement the descriptions. This primary method of identification may not be helpful to those who 'think visually' rather than by following a description, although useful references to specialist identification guides are provided. For many groups (such as the rove beetles which comprise '19 subfamilies with over 1000 British species') the keys enable identification to subfamily or similar group level, but examples of some of the more common species are also given. There is a useful short key to insect larvae, which are often encountered in leaf litter, etc, although the authors emphasise that it is almost impossible to identify many of them to species level, whilst giving references to the often-difficult methods for culturing larvae until they emerge as adults. The book does not confine itself to invertebrates, with keys to reptiles, amphibians and small mammals also included.

There follows a chapter on how to study animals under logs and stones, which includes suggestions for research projects, such as distribution mapping, behavioural studies, interaction with their microclimate and looking at whole animal communities. There are sections on planning a project, collecting methods, health and safety, keeping animals alive, forming a preserved collection and how to use statistics.

The book concludes with a list of useful addresses and web links, from equipment suppliers to organisations like our own, followed by a list of references (together with notes on how to find books and journals) and quite a thorough index (for instance there are entries for both '*Oxychilus navarricus* (glossy glass snail)' and 'glossy glass snail (*Oxychilus navarricus*)').

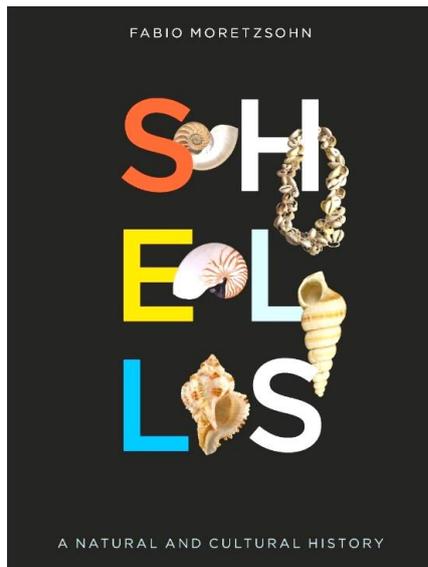
I would recommend this book for any conchologist with a curiosity about the other animals they encounter under logs and stones and similar environments.

*Peter Topley*

<sup>1</sup> <https://www.nhbs.com/blog/author-interview-with-c-philip-wheeler-and-helen-read-animals-under-logs-and-stones>.

## Book review: *Shells – a Natural and Cultural History* by Fabio Moretzsohn with contributions by M. G. Harasewych

Reaktion Books, 2023, ISBN 9781789147131, 176 pages (HB). Price approx. £17–£20



In 2011 Kevin Brown reviewed for this magazine *The Book of Shells*, Ivy Press 2010, by the authors of the present volume (Brown 2011). The book focused on 600 worldwide marine species and a selection of 75 of the featured shells were later re-issued in an abbreviated form as *The Little Book of Shells* (Ivy Press, 2020). Fabio Moretzsohn was an assistant professor at Texas A&M University, managing editor for the *American Malacological Bulletin* and editor for the family Cypraeidae (cowries) for the World Register of Marine Species (WoRMS). He sadly died from lung cancer in 2020 at the age of 56 (Leal 2020). This may be a reason why the final two chapters of the book are written by his erstwhile collaborator, M.G. (Jerry) Harasewych (emeritus curator in the Department of Invertebrate Zoology, Smithsonian Institution National Museum of Natural History) although no reason is given for this arrangement (this somewhat slim volume does not include a preface or introduction).

Each concisely written chapter covers a specific aspect of molluscs and their use by humans. Whilst reading the book I had the feeling that I had encountered versions of the information before in several much earlier publications (e.g. Saul 1973, Godan 1999; some other examples are given in the ‘Select bibliography’ at the end of this book) but here the information is brought up to date and there are many new discoveries to be made within its pages.

The first chapter introduces us to the classes of molluscs and includes brief descriptions of their structure, feeding, life cycles and fossil history. *Neopilina* and pleurotomarid slit shells are given as examples of living fossils; a beautiful 18<sup>th</sup>-century Japanese woodblock print of the slit shell *Mikadotrochus hirasei* is reproduced on page 24. Many of the subsequent chapters of the book cover cultural aspects of shells. A chapter entitled ‘Tribal shell use’ covers everything from early shell middens through to molluscs used as food, jewellery and purple dye. There are two interesting tables listing molluscs in human diet and the types of shell tools made by indigenous peoples.

Chapter 3: ‘Shells and religion’, discusses the special powers of symbolism attributed to shells, from the peoples

of the Pacific Northwest to the sacred chank of India and the St James pilgrim scallop. Some unusual images include one of a queen conch (*Aliger gigas*) used as a holy water font in a church in Mexico. The next chapter discusses shells used as money and on banknotes, coins and stamps (our Hon. President, Tom Walker, gets a mention here).

The first author’s interest in Cypraeidae explains the reason for the one chapter devoted to a single group of molluscs, entitled, in true Kipling style: ‘How the cowrie got its spots’. This includes a description of shell growth. There is an x-ray image of an adult cowrie that shows the thin and coiled juvenile shell, from which the adult developed, visible inside. I also learned how the spots of the sieve cowrie (*Cribraria cribraria*) (see below) are formed under each of the finger-like papillae that cover the animal’s mantle. There follow two chapters on pearls and ‘Shells in the arts’. The latter is wide ranging and includes shells in films, animated movies (e.g. *Turbo* and *Finding Dory*) to Guylian chocolate seashells!



*Cribraria cribraria*, Bohol, Philippines (length 32 mm).

(photo: Peter Topley)

The final two chapters by Jerry Harasewych: ‘Molluscs and medicine’ and ‘Shells in a changing world’ provide a change in tone and a warning, that we have much more to learn about the hidden potential for molluscs in maintaining human health but we live in a world where human population growth, pollution and global warming are threatening their very existence.

As well as an index, a useful list of ‘Large collections of shells’ in worldwide museums is given, along with contact details; however, a list of ‘Associations and websites’ doesn’t include the present Society. Overall to be recommended as a brief summary of the subjects covered, with some excellent illustrations.

### References

- Brown, K. (2011) Book review: *The Book of Shells* by M.G. Harasewych and Fabio Moretzsohn. *Mollusc World* 26: 20–21.
- Godan, D. (1999) *Molluscs: their Significance for Science, Medicine, Commerce and Culture*. Hoboken, NJ: Wiley-Blackwell.
- Leal, J.H. (2020) *Fabio Moretzsohn: 1964–2020*. [www.shellmuseum.org/post/fabio-moretzsohn-1964-2020](http://www.shellmuseum.org/post/fabio-moretzsohn-1964-2020).
- Saul, M. (1973) *Shells: an Illustrated Guide to a Timeless and Fascinating World*. New York: Doubleday.

Peter Topley

## 50 years ago: from *The Conchologists' Newsletter* (no. 46, September 1973)

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

### Horse mussels (*Modiolus modiolus* L.) as food J. Davies

I was recently very surprised to see horse mussels (*Modiolus modiolus*) [figure 1] on sale in a fish shop in the east end of Glasgow. These were exposed in the window, labelled 'Clabbydoos 5p each'. As I had always believed with Step (1945) that the affix 'horse' signifies that these mussels are coarse and unfit for food, I made some enquiries at the shop. I was told that far from being inedible they have been eaten in Glasgow for a considerable number of years and are, in fact, considered quite a delicacy – which was corroborated at another fish shop in the centre of Glasgow. The source of these molluscs is Loch Fyne in the Firth of Clyde, or sometimes off the N.E. coast of Scotland.



figure 1: *Modiolus modiolus*, Skye, 2009. (photo: Peter Topley)  
(see also: Logan, J. (2010) *Mollusc World* 22:14 – 15)

I am informed by Mr K. Thomas of the British Museum (Natural History) that it is an edible mollusc and is eaten quite a lot in Canada. Another person informs me that she has seen a recipe using *M. modiolus* in a book on Mediterranean cookery ...

The name under which they are sold is of some interest. It appears to be a corruption of the Gaelic *clab-dubh*, pl. *claba-dubha*, the literal meaning of which would be 'black, large-mouth'. There is, however, much confusion in the Gaelic names of plants and animals and the same name is frequently given to many, sometimes widely-differing, species. Thus Dwelly (1941) equates *clab-dubh* with 1) mussel, 2) phola (sic!), whereas McNeill (1910) gives *Cyprina islandica*. On another page, Dwelly, quoting from A. Forbes 'Gaelic names of beasts etc.', gives cockles, clams. The usual Gaelic name for the common mussel (*Mytilus edulis* L.) is *feusgan* (from *feusag*: a bean) or *feasgan* and McNeill gives for horse mussel *feasgan-mor* (i.e. the great mussel).

#### References

Dwelly, E. (1941) *The illustrated Gaelic-English dictionary*. 4<sup>th</sup> edn. Glasgow: A. MacLaren & Sons: 199, 200.

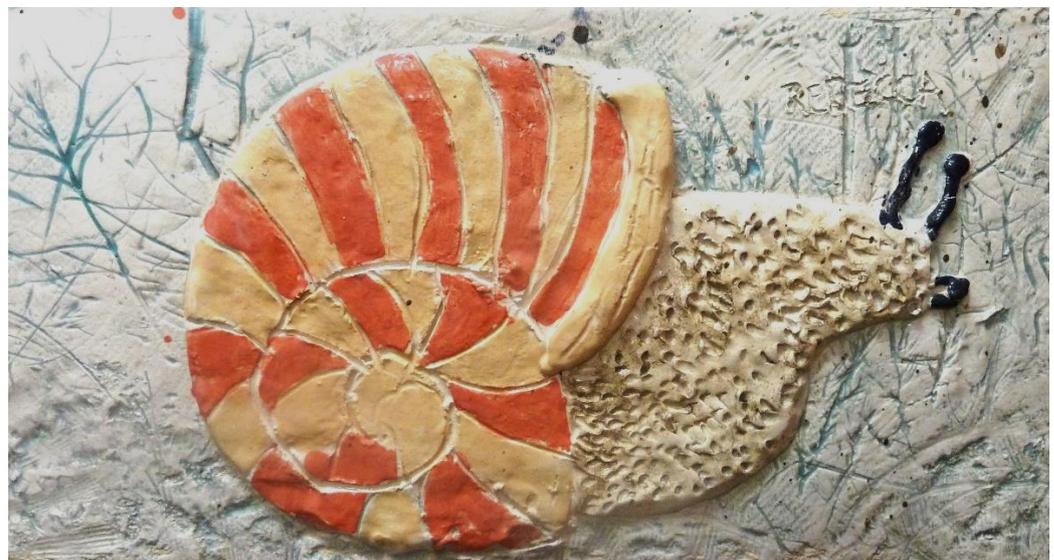
McNeill, M. (1910) *Colonsay, one of the Hebrides. Its plants, their local names and uses, legends, ruins and place-names, Gaelic names of birds, fishes, etc.* Edinburgh: David Douglas.

Step, E. (1945) *Shell life*. New edn. London: Frederick Warne & Co. (Wayside and Woodland series).

## Ceramic wall tile of a snail

June Chatfield

Whilst on a field meeting at Brandon Marsh nature reserve, Coventry, my eye was taken by ceramic decorated tiles in the cloakroom at the visitor centre. They were made by children from Ernsford Grange Junior School in a workshop led by ceramic artist Robin Wade in 1998, about the time that the nature reserve in redundant sand and gravel quarries was opened, run by Worcestershire Wildlife Trust. One was based on a snail. One wonders, over twenty years later, whether the child retained a fascination for snails.



# Some key Conchological Society contacts

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

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

HON. GENERAL SECRETARY: Rosemary Hill  
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Email: [secretary@conchsoc.org](mailto:secretary@conchsoc.org)

HON. TREASURER: Brian Goodwin  
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S40 3DH. Email: [treasurer@conchsoc.org](mailto:treasurer@conchsoc.org)

HON. EDITOR OF THE JOURNAL OF CONCHOLOGY  
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Wales, Dept. Biodiversity & Systematic Biology, Cathays Park,  
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HON. EDITOR OF MOLLUSC WORLD: Peter Topley  
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SG17 5EL Email: [magazine@conchsoc.org](mailto:magazine@conchsoc.org)

MEETING PROGRAMME compiled by: Martin Willing  
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## FOR BACK NUMBERS OF CONCH. SOC. PUBLICATIONS

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



The  
Conchological  
Society  
of Great Britain & Ireland

## 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 of Wales, 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.

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## 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 has to 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 March 2024 issue to be sent to him before 20th January 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.

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## 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 above).

The codes in italics after the member's e mail address indicate the member's interests: *B* – Conchological books *C* – Conservation *E* – Ecology and pollution *F* – Fossils *G* – General malacology including genetics/physiology *Nb* – British non-marine *Z* – Captive breeding of molluscs

### New members

Ms Lou Wagstaffe [intertidal.walks@seaharephotography.com](mailto:intertidal.walks@seaharephotography.com)

Ms Julie Swain, 148 Bath Road, Atworth, Melksham, SN12 8JU.  
[jools990@gmail.com](mailto:jools990@gmail.com) *B C E F G Nb Z*

Mr David Westwood, 1 Greenhill Gardens, Wolverhampton,  
WV5 0JB. [davidjwestwood@outlook.com](mailto:davidjwestwood@outlook.com)

### Changes of address/email etc

Dr R. Marriott, 4 Castle Place, Inverbervie, Montrose,  
Aberdeenshire, DD10 0TW.

Mr G. Clark, 2 Buscott Drive, Ashbourne, Derbyshire, DE6 1JY.

Mr K.D. Brown, 42 Denham Lodge, Oxford Road, Denham,  
Uxbridge, UB9 4AB [keironderekbrown@gmail.com](mailto:keironderekbrown@gmail.com)

# Conchological Society of Great Britain and Ireland

## Diary of Meetings

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



### Indoor meetings

Details of whether a meeting is 'live' plus Zoom or Zoom only, will be circulated to members prior to each meeting, together with instructions on how to access the NHM and /or the online Zoom.

News updates will also appear on the Society's website.

**Attending by Zoom:** It is ESSENTIAL to let Catherine Jagger at CIRCA ([shellmember@gmail.com](mailto:shellmember@gmail.com)) know of your intentions to attend by Zoom before 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.

#### **Saturday 9th December 2023: INDOOR MEETING with exhibits and lecture (NHM with Zoom link)**

**Guest speaker:** Richard Preece. 'William Benson and the Golden Age of Malacology in British India.'

A talk following the publication in 2023 of a monograph on Benson's pioneering work in India.

14.00 – 17.00 (13.45 Zoom sign in – pre-register with Circa): Angela Marmont Centre, NHM, London SW 7 5BD.

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

#### **Saturday 17th February 2024: INDOOR MEETING with exhibits and lecture (NHM with Zoom link)**

**Guest Speaker:** Chris Fletcher (Natural History Museum). 'The Darwin Tree of Life Project: Sequencing Britain.'

A talk describing the Darwin Tree of Life project which aims to collect representatives of all eukaryotic organisms in the British Isles and sequence their entire genomes.

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 (Zoom))

#### **Saturday 20th 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 6th July 2024: ZOOM MEETING with online exhibits and lecture**

**Guest speaker:** Confirmation of speaker & talk pending: please see website for updates

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 19th 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 9th 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 10th November.

#### **Saturday 7th 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))

**Further details about the speakers and their talks will appear on the Society website at the start of 2024.**

*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)).**