

Mollusc World

March 2016 • Issue 40

Slit limpets
In the Channel Isles

Solomon Island
land snails

Mollusc recording
In North Wales

Conchological Society field meeting



The
Conchological
Society
of Great Britain & Ireland

From the Hon. Editor



This issue includes two articles relating to the Conchological Society's weeklong late September field meeting to the Llyn peninsula/Anglesey, North Wales last year. The low tides and good weather meant some interesting mollusc encounters (to the left I am photographing in a kelp bed near Church Island on the Menai Strait (photo: Jan Light)). If you haven't

yet attended one of our longer field meetings I would fully recommend setting aside the time to come along.

In a fascinating recent paper in the journal *Nature* (530, 94–97) scientists have reported further discoveries of the deep-sea primitive *Xenoturbella* 'sea socks' which were previously thought to be early molluscs because of the presence of molluscan DNA. However it is now thought that the DNA is that of their likely prey, deep sea vesicomyid bivalves, which have been found close to where *Xenoturbella* occurs. However the 'sea socks' have a tiny mouth opening with no teeth, or any sucking proboscis structure that could tear off a piece of bivalve. It remains a mystery how *Xenoturbella* eats; the creature has no eyes, no brain and no gut. Just a small gaping mouth from which food goes in - and then waste comes out...

For those interested in worldwide non-marine molluscs the recent eight page fold out *An illustrated guide to the freshwater Mollusca of Sri Lanka* by Peris *et al.*, a joint Conch. Soc./Malacological Society publication, will be of great interest. The guide is available at £2.00 plus postage from our Publications Officer (see page 29 for contact details).



In December 2015 the Society learnt of the death of Ron Boyce, a past Programme Secretary, who was an enthusiastic field naturalist and familiar to all those who attend field or indoor meetings. A moving memorial poem by his daughter features on page 7 and it is hoped to feature an appreciation of Ron's life in a future issue.

Please consider attending one or more of the many upcoming events we have planned (listed at the back of this issue) and then perhaps writing something about them, or on any relevant subject, for your magazine, especially if you haven't yet done so! As I have mentioned previously articles on aids to identification and technique would be particularly welcome. Please also note that due to other commitments the publication of the July magazine may be slightly delayed.

Peter Topley

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Front Cover: Simon Taylor examining *Ostrea chilensis* amongst spouting *Ensis* at Llanddwyn (see page 5) (photo: Peter Topley)

Mollusc World

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

We include articles, meeting reports, research news, results from the mapping schemes and identification aids. We welcome all contributions in whatever form they arrive (see page 31 for further details).

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Conchological Society North Wales Field Meeting, 25th Sept.–2nd Oct. 2015

Jan Light with contributions from Bas Payne, Ian Smith and Peter Topley

Great expectations in North Wales

It was that equinoctial time of year when high tides would be extra high and low tides extra low. Our destination for the annual field week was North Wales. All we needed was some decent weather and I think I can say that the weather exceeded our greatest expectations in terms of clemency. During our chosen week the majority of us were based at Bryn Engan, a farmhouse just north of Criccieth. There, and on the beaches, we celebrated fine sunny days, often breezeless, giving us good water visibility and excellent working conditions too.

Our own road journey would take us from east Dorset north to cross the River Severn then, turning northwest, to follow a traverse of Wales driving through stunning landscapes. We drove the valley that passes between the Brecon Beacons on the west and the Black Mountains on the east. Further on, the road tracked the flow of the River Wye, on to Builth Wells where we made a pit stop. With still many miles to cover we continued northwest and passed the large water body of the Clwedog Reservoir. Heading for the hills we entered the Snowdonia National Park where our route curved west to Dolgellau over the Afon Mawddach and then due north to cross the River Dwyryd. Our lodgings for the forthcoming week were at Bryn Engan, a former farmhouse tucked in the Criccieth hinterland on the margins of the Snowdonia Park.

By early evening, seven of our number had converged and chosen their rooms. I'd carried the evening meal, a chicken curry with accompaniments, which we ate together, the meal being the first of several convivialities to follow, around a table designed to seat 12 comfortably.

On Sunday morning and with all assembled, before we headed for our shore of the day, the conchologists in our number had time to set up stations in the dry laboratory: a small weatherproof outbuilding, which contained a pool table, around which we set up temporary work benches in order to accommodate our microscopes and associated paraphernalia (figure 1).



figure 1: In the dry lab., Bryn Engan. (photo: Peter Topley)

There was also a wet lab of sorts – a larger stable with a ping pong table – which was served by the outside tap where we had to sieve our samples. It worked. We just lacked seawater on tap, a rare luxury only available when we are working out of a university marine lab facility. Late on Sunday evening it was decided that an excursion to a local beach was necessary to fill the two large plastic containers which Ian Smith had brought. In the absence of a photographic studio he had set up his photographic equipment in the front porch (figure 2).



figure 2: Ian Smith working in his improvised photographic studio in the front porch. (photo: Peter Topley)

Golfing greens and seagrass beds

On Sunday our shore of the day was Porth Dinllaen at Morfa Nefyn, a stretch of coast which has been surveyed on previous Conch. Soc. field trips under the auspices of Tom Clifton, the former area recorder for Anglesey and the Lleyn.

Porth Dinllaen is a rocky peninsula projecting northwards with a small harbour on the east side and more craggy and less accessible coast on the west. With special dispensation, we parked at the golf club there and met up with Brian and Penny Goodwin and Paula Lightfoot. We walked the tarmacked right of way that crosses the golfing greens. More than once, to the shout of 'Fore', we ducked to avoid misguided golf balls. To our left as we walked north there was a string of pocket beaches which looked promising, if difficult of access. Some of our number headed for the tip of the small peninsula. I and others decide to work the east harbour, and as we were on the shore well ahead of low tide, I focused on the upper shore noting *Littorina compressa* to be common (figure 3). Despite careful searching none of us on that shore found *Melarhaphé neritoides* nor much else in the way of upper shore crevice-dwelling molluscs, although I did later obtain *Lasaea adansonii* from my *Lichina* sample. Really I was waiting to see if the ebbing tide would reveal the extensive *Zostera* beds I recalled from previous visits. *Zostera* is otherwise known as eelgrass (which is a good name) or seawrack which is a bad one as *Zostera* is a grass – a flowering plant, not an alga or seaweed. Sure enough as more of the sand flats were revealed, so also was the green turf, which, losing its buoyancy in the water, flops onto the silty sands losing its grace and mobility, which are features to enjoy when wading *Zostera* beds in shallow water. Eelgrass beds are sensitive and vulnerable biotopes and have legal protection so disturbing roots to sample is not permitted. You might expect to find dead shells of species associated with this habitat but we saw very little of interest. We did find worn valves and fragments of the showy venerid clam *Callista chione* (figure 4). This is a large bivalve with a handsome polished shell. It is also edible although you would be wise to cook *Callista* first as attempts to swallow it raw and whole may be met with resistance from the large muscular foot... unlike the passive and hapless oyster! As we returned to our cars at the end of the afternoon, we passed our stalwart Marine Recorder working the little pocket beaches we had passed on our way to the shore.



figure 3: *Littorina compressa* (height c. 12 mm), Porth Dinllaen. (photo: Peter Topley)



figure 4: Worn valve of *Callista chione* (length 91 mm), Porth Dinllaen. (photo: Peter Topley)

Who ate all the pies? Well, we did; our evening meal being contributed by Peter Topley whose local butcher makes his own and very good they are too. Followed by Peter's blackberry and apple crumbles we were replete and could settle to sorting our samples.

In a straitened situation

The Menai Strait is a narrow stretch of shallow tidal water about 25 km long and which separates the island of Anglesey from the Welsh mainland. It has been the focus of attention for marine biological studies from groups such as the Conch. Soc., but crucially it has provided a perfect base for generations of marine biology undergraduate and postgraduate courses taught from the School of Ocean Sciences at Bangor University.

The differential tides at the two ends of the Strait cause very strong currents to flow in both directions through the Strait at different times, creating dangerous conditions. One of the most dangerous areas of the strait is known as the Swellies between the two bridges. Here rocks near the surface cause dangerous over-falls and local whirlpools. But it draws the attention of shore workers because it is a rewarding and productive area to work when surveying for marine life. Whilst some of the group decided to work that shore underneath Menai Bridge, others of us parked conveniently for Church Island, around which an interesting shore is exposed at low tide.

You cross a permanent causeway to the small island on which St Tsilio's Church with its graveyard is situated (figure 5). Before accessing the more open marine shore we spent a little time investigating the splash zone of the saltmarsh area (figure 6), searching beneath plants of *Halimione portulacoides* for pulmonate snails. We found *Myosotella* and *Auriculinella* (figure 7) under embedded slabs on mud. We found what we were looking for, inviting the attentions, as always, of passers-by who cannot resist

asking us what we are looking for. Unfortunately a simple answer is not always enough. You then run the gauntlet of incredulity followed by a series of questions. As Bas remarked at the time, we really should carry some Society leaflets in our backpacks.



figure 5 (above): the Menai Strait showing Church Island in foreground. figure 6 (below): Bas Payne on the splash zone, Church Island, Menai. (photos: Peter Topley)



figure 7: *Auriculinella bidentata* (height 3.5 mm) on mud under splash zone boulder, Church Island, Menai. (photo: Peter Topley)

With the passing of years I find muddy sediments and fucoid blankets ever more treacherous. Fortunately at Church Island there were more stable patches of pebbly gravels to tread on but once you get to the water's edge and with the tide ebbing to the kelp zone the risk of slipping is high. I worked amongst rollable boulders finding the undersides diversely colonised with some interesting associated molluscs: both species of *Trivia*, *Lamellaria perspicua*, *Berthella plumula* (figure 8), *Archidoris pseudoargus* (figure 9). A heron stood nearby for some time and observed. Tom Clifton who lives nearby at Rhianfa joined us and it was a pleasure to see him after an interval of some years.



figure 8: *Berthella pumilla* individual typically camouflaged against sponge colonies on rock underside. (photo: Peter Topley)

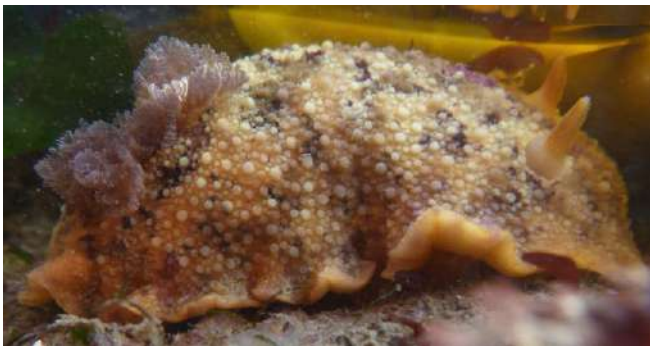


figure 8: *Archidoris pseudoargus* (sea lemon) (length c. 12 cm), Church Bay, Menai. (photo: Peter Topley)

At low water and as the tide turned, I enjoyed a molluscan experience which took me back many years to a similar occasion at Strollamus on the Isle of Skye. Laying on the gravels and byssally attached in places there were many juveniles of *Pecten maximus* measuring about 2 cm from umbo to ventral margin. Young scallops are dainty and rather beguiling. These young *Pectens* were just beginning to show their ribbed sculpture; there is a stage when the small shells are smooth and belie their adult form. On Skye the young scallops were *Aequipecten opercularis*, a more colourful species and their bright pink, orange and yellow shells, surprisingly camouflaged amongst the gravel and pebbles on the shore, immediately became visible when they fluttered to meet the incoming tide.

So much more than *Trivia*



figure 10: Sole worker at low tide on the boulder platform at Llanddwyn. (photo: Nick Light)

A second trip to Anglesey took us across the bridge and then southwest to reach Ynys Llanddwyn, a tidal island, which projects southwest and is accessible at certain tidal states by means of a narrow sand bar. Before you walk round the sandy bay to reach the island you might be distracted, as I was, by the extensive flat reef-platform of cobbles and associated pebbles which are stable but are not deeply embedded on the sand (figure 10). On the upper shore the smooth cobbles are heavily colonised with barnacles; limpets are scarce as are *Nucella*. As you descend to midshore level, weeds and small shallow pools, no more than puddles, become a noticeable feature. And then you are crunching your way over clumps of large barnacled mussels, crowded together in secure byssally attached beds. This substrate type is continuous but larger rocks and boulders are more common as you reach the lower shore and when these are rolled they are harbouring diverse colonial life on the undersides (figure 11). And the motile life under these larger rocks teems. I have rarely seen more numerous crab species, and there are many individuals. There are so many sea anemones, starfish, brittlestars, and rockpool fish, which splatter out of the way when revealed to daylight. I will remember this shore for its productivity and the number of *Trivia* that I saw. Adults and numerous juveniles like so many ‘families’ nestling amongst the ascidians.



figure 11: Group of *Nucella lapillus* showing colour variation, with egg capsules on the shore at Llanddwyn. (photo: Peter Topley)

Some members of the party examined the shore near the island which consisted of sand with rocky outcrops. In the sand were many living razor shells (*Ensis* spp.) many of which squirted water from their burrows as they felt the vibration of passing feet (see front cover). Simon subsequently confirmed that these included *Ensis americanus*, a new record of this introduced species for North Wales. Between the rocks were large colonies of *Ostrea chilensis* (figure 12) originally introduced to the Menai and now spreading locally. These were being harvested into sacks by a local fisherman.



figure 12: A cluster of *Ostrea chilensis* adhering to each other, Ynys Llanddwyn (total w. c. 100 mm). (photo: Peter Topley)

Of drift wood and many magi

Traeth Crugan is situated between Llanbedrog and Pwllheli and this was the site for the day but some of our number had another expedition in mind first.

A splinter group drove to Abererch railway station to meet up with Tom Clifton in order to walk the strand eastwards to the headland at Hafan Y Mor, also known as Penychain. This is a point of deposition for driftwood. In the past Tom, who has made a unique and special study of shipworm occurrences in timber washed up around Anglesey and the Lleyn (see articles in *Mollusc World* issues 13 and 17), has found some of his best samples here. Some have been very large, possibly struts from piers, necessitating the use of ropes to haul the wood along the 2–3 miles of beach back to his parked car. It was something of a schlep from the station (figure 13) but, as we reached the headland, we started to find accumulations of smaller pieces of driftwood on the strandline and then we happened on a very promising trunk with boreholes. The bow saw and hand axe that Tom had brought with him came into service (figure 14).



figure 13: In search of beached timber: Simon Taylor, Jan Light and Tom Clifton. (photo: Nick Light)



figure 14: Sawing a transverse section through some timber riddled with boreholes. (photo: Jan Light)

Unfortunately when the log was sawn through it was clear that the boreholes were not made by shipworms but another organism whose traces in the timber we did not recognise. Nevertheless we had had a masterly demonstrator of the investigative technique.

We trudged back to our cars and drove to Traeth Crugan to join the others. The tide was ebbing rapidly and before long there was a shallow lagoon to wade around, where dead shells were lying on the pebbly sands. *Tapes aureus* and *Gastrana fragilis* are locally common here, occurring elsewhere around the coast of the British Isles at widely scattered localities.

Paul Brazier, who works for Natural Resources Wales (NRW) snorkelled the lagoon and Paula Lightfoot had also donned her diving kit so she could collect some sublittoral weed samples for Ian Smith who needs a good sample of living *Pusillina inconspicua* for DNA work in association with Graham Oliver and Anna Holmes at Cardiff Museum. Whilst Paula snorkelled Ian followed her along the bar and many buckets of weed were shaken in sea water and the residue collected for examination. Ian spent Thursday searching through the residue and taking out specimens with the distinctive spotted cephalic tentacles. These were then re-examined individually to make sure no *Rissoa parva* had got into the sample, before being put in a vial of absolute ethanol, which was changed on Friday for fresh absolute ethanol. Ian took some specimens home alive and sorted them the following week in the same way.

As an aside, it is Ian's view that the species is a summer-breeding annual as nearly all the specimens collected were juveniles, less than 1 mm high, with clean white shells with distinct brown costally orientated streaks. There were a very few adults with a coating of brown matter; one could assume that these were the last survivors of the breeding adults.

Once I was able to cross the lagoon and reach the platform on the seaward side, I wandered over this reef, looking for surface shells and suddenly became aware of the numerous

Gibbula magus snails crawling over the substrate. Hundreds of them. They were extremely well camouflaged with coatings of algae (figure 15). The colourful pink-brown vertical zigzag banding on the shells can be completely masked by surface deposits on the living mollusc. On the sand, *Nassarius reticulatus* were feeding on stranded *Rhizostoma* jellyfish. An unusual find on the lower shore were washed in living adults and juveniles of the sub-tidal smooth cockle (*Laevicardium crassum*) (figure 16).



figure 15: Camouflaged *Gibbula magus* found in large numbers crawling on the seaward platform of the Traeth Crugan lagoon. (photo: Alan Outen)



figure 16: *Laevicardium crassum*, Traeth Crugan (left: adult h. 61 mm; right: detail of siphons on a juvenile, h. 35 mm) (photos: Peter Topley)

A date with Lady Janet

Thursday would be my last day of the field trip. It was also the day for boat work. At 10:00 a.m. Simon, Peter, Bas and Nick met up with Owi Lloyd-Jones, skipper of the *Lady Janet*, for a day's grab-sampling out in Cardigan Bay. They were hoping to sample for molluscs off-shore, in depths between 10 m and 40 m, where they might have expected species that had not turned up on-shore during the preceding days. We waited until the Thursday to do the boat work because the low tides were not as low as earlier in the week. Luckily, the weather was ideal – a bright sunny day, not much wind (which was a relief to those of us who felt decidedly queasy during last year's dredging trip off Whitby, when the weather wasn't as kind).

The sea bottom in northern Cardigan Bay is shallow – 40 m deep at most – and mostly sandy or muddy, apart from occasional stony ridges, the longest, St. Patrick's Causeway, being a well-known hazard to navigation. The Day grab, kindly lent to us by the National Museum in Cardiff, worked well, retrieving up to 15 litres of mud or muddy sand,

sometimes shelly, sometimes apparently almost sterile (figure 17). Owi quickly worked out the most efficient way to lower and raise the grab, and five hours later, having gone out to 15 km southeast of Abersoch, they returned with 20 samples, ranging from a small haul of encrusted stones from one of the ridges, through sands and muddy sands mainly from 12 to 20 m deep, to gelatinous muddy silts from 26 to 33 m down in 'Muddy Hollow'.



figure 17: Nick, Simon and Peter bagging up a grab sample on board *Lady Janet*. (photo: Bas Payne)

Initially the samples looked a bit disappointing. They appeared to contain rather few live shells, such as there were being mostly fairly common bivalves and *Turritella*. The samples were kept intact, having been bagged up onboard and they were then 'divvied' up between us for further processing and sorting. Quite a few of the samples were time-consuming to sieve clean, needing repeated soaking in warm water to loosen the clay. Working these samples is under way as I write and some have proved productive, with a good range of species: we haven't yet finished sorting the smaller fractions and identifying the shells, but a number of scarce species have already been identified. Getting the necessary permissions for sampling from NRW and the Crown Agents (!) was a slow and laborious process for Bas, even with the kind help we received from NRW staff; but already it's clear that the results are going to be worth it.

A place of spiral staircases and pelican's feet

Meanwhile on the shore, for those who did not join the seafaring group, an excursion was made to Shell Island, at Mochras. It's a bit of a misnomer; agreed there are plenty of shells to be had but the site is sprawling and it is not clear just where the 'island' of shells is. More correctly it is a peninsula, access to which is made possible via a causeway across the River Artro estuary when the tide is out. We paid our dues to the owner of the campsite there and then parked our cars. We scabbled down the dunes to arrive at a fairly barren-looking sandy shore, with a boulder bed immediately adjacent to our access point and sands stretching away to the south. Eschewing the high strandline, I walked down to the water's edge and proceeded to track that line south as the tide ebbed. Very little was washed in, perhaps most notable were the darkly orange valves of *Callista* which

seem to have been tracking us during this field trip. Working back I rejoined my access point and followed the upper strandline north, finding accumulations of many worn shells, dominantly cockles and common intertidal gastropod species but more interesting species such *Aporrhais pespelicani* and two species of *Epitonium* as well. These two genera of mollusc are beautiful in their own right, and also have engaging and descriptive common names. It is evident why the Pelican's Foot shell should be so named, but the common name for the slender turriform shell of the Wentletrap, most like a steeple in shape, is more obscure. The name derives from the Dutch Wenteltrap, or indeed the German Wendeltreppe, meaning a spiral staircase.

In the absence of rough weather for some weeks, and given that we were at the end of the summer season when numerous holidaymakers would have trampled the shore I think we were picking over dregs. Tom Clifton had mentioned finding *Trivia* shells washed up in their thousands on the strandlines.

Looking back in my field notebooks, I see that I made a field visit to Mochras when I was in the area on a geology field trip in April 1991. On that occasion I made a long list of species, many of which I recorded as live observations. I suspect I carried out a weedwashing exercise for microspecies on that occasion and I evidently searched the saltmarsh area as I recorded *Limapontia depressa*, *Retusa obtusa* and *Hydrobia ulvae*. I recorded 14 infaunal clam species alive. Maybe I found a good place of deposition where fresh shells were washed in and dumped by the tide, but I didn't note the details at the time. What is interesting though is that I did not see *Trivia* or *Epitonium* then. I think it is this serendipity factor, and the pleasures of recording, that keep me coming back for more.

You May Be Gone

by Heather Jinks*

You may be gone but I will see
By bark and leaf of every tree
Midst flowers studding verge and field
Twixt gorse that gilds both moor and heath

O'er mossy stones in darkened dell
At rocky pools now drained from swell
Through rush and reed on river banks
In fact all wondrous habitats

Observing there on land or sea
The conch, the moth, the humble bee
The many creatures in the land
Indeed all species known to man

You may be gone but I will see
In every place that I shall be
Your gentle spirit crouching there
Thrilled at the common and the rare

You may be gone but you will see
Your loving heart beats strong in me.

* Daughter of the late Ron Boyce. This beautiful and apposite poem was read at his funeral and is printed here with permission.

Terrestrial molluscs around an 18th century welsh farmhouse *Peter Topley*

The Conchological Society's late September 2015 marine field meeting to locations around the Llŷn Peninsula and Menai, North Wales, saw nine of the participants, including myself, sharing a farmhouse near Llangybi, not far from Criccieth. The isolated house, built of stone and slate and dating from the 1750s, was complete with disused traditional pigsties with slate dividers, barns and other outbuildings with mortared stone walls. The geology of the Llŷn is complex, the majority being formed of acidic volcanic rocks of the Ordovician period, although there are some areas of overlying boulder clay. Non-marine mollusc recording in the area in the past has been somewhat limited and sporadic with clusters of records from areas to the North and West but very few within 20 km of the farmhouse. I therefore decided to examine the immediate area to determine what molluscs, if any, were present.

Several of the outhouses around the farmyard had been re-roofed in the recent past and old slates were stacked in several areas. Under these I found four species of the family Arionidae including *Arion fasciatus* (the rusty false-keeled slug) (figure 1) and *Arion rufus* (the large red slug) (figure 2), neither of which had been previously recorded from this area.



figure 3: Disused pigsties on farm near Llangybi.

The abandoned pigsties on the edge of the farmyard (figure 3) had been colonised by areas of moss, ferns, grasses and herbs including *Epilobium* and escapees from the garden. Present here were several *Boettgerilla pallens* (worm slugs), a new record for the 10-km square (figure 4), together with the snails *Nesovitrea hammonis* (rayed glass snail) and *Aegopinella nitidula* (smooth glass snail).



figure 1: *Arion fasciatus* (length (l.) 41 mm), Bryn Engan, Llangybi.



figure 4: *Boettgerilla pallens* (l. 49 mm), Bryn Engan, Llangybi.



figure 2: *Arion rufus* (l. 106 mm), Bryn Engan, Llangybi. Note the striped orange-red foot fringe and light, orange flushed sole.

One of the most common snails found at the base of stone walls around the farmyard was *Oxychilus helveticus navarricus* (glossy glass snail) a species 'often associated with rubbish or disturbance' (Kerney, 1999) so perhaps not surprising that it is common here. Also present sporadically in similar places was *Clausilia bidentata* (common door snail, figure 5) of which Kerney says 'in harsh acid upland areas, mortared stone walls may support isolated populations' which is probably similar to the case here.



figure 5: *Clausilia bidentata* (height 10.3 mm) on old mortar of wall, Bryn Engan, Llangybi.



figure 6: Barn wall site of *Balea sarsii*.

Nestling deep inside cracks between the stones of a southwest facing wall forming the steps to the upper story of a barn (figure 6) were several shells of another Clausilid, *Balea sarsii* (formerly *heydeni*). Prior to 2006 (Gittenberger, Preece and Ripken, 2006) the presence of this species was hidden amongst records of *B. perversa*, but it is probably the more common of the two species in the UK. Previous finds of *Balea* on the Llŷn have been from more western areas and have been recorded as *B. perversa*, not *B. sarsii*. At least some of these records may have been the latter species as *B. sarsii* has subsequently been recorded from areas further north and east including Llanrug near Caernarfon, Anglesey and Bryn Pydew near Llandudno. I was intrigued as to how the *Balea* had managed to colonise the wall of an isolated farm building with no nearby records ever having been noted. Welter-Schultes (2012) notes that both species of *Balea* ‘may tolerate non-calcareous soils’, in addition to which, throughout its history, the farm was no doubt subject to much movement of livestock, building materials and soil on farm machinery. All these factors must contribute to the relatively high number of mollusc species in this small area surrounded by acidic soils. I had not found any further examples of *B. sarsii* until I discovered one individual sheltering under a pile of discarded slate roof tiles at the back of the farm buildings, along with a single *Lauria cylindracea* (common chrysalis snail) (figure 7). I felt that



figure 7: *Lauria cylindracea* on old slate roof tile, Bryn Engan, Llangybi.

I had yet to discover the ‘original’ habitat of the *Balea* but then noticed an overgrown hedgerow on the boundary of the farm buildings. Knowing the common name for *Balea* is ‘tree snail’ I made my way through dense undergrowth and looked on any likely algae-covered branches for signs that they were there. My intuition had been correct because I saw at least ten *B. sarsii* on the trunk and branches of an *Acre campestre* (field maple), one of them at least 2.6 m above ground level (figures 8 to 10). Many more individuals may well have been observed had the recent weather been

wet. So there is no doubt in my mind that the individuals on the farm buildings and slates were associated with the colony in the ancient hedgerow.



figure 8: Overgrown hedgerow site of *B. sarsii*.



figure 9: A single *B. sarsii* (arrowed) c. 2.5 m up a field maple trunk in hedgerow, Bryn Engan, Llangybi.



figure 10: *B. sarsii* shells from Llangybi photographed against old mortar. (Photo: Alan Outen)

An investigation of neighbouring fields and associated walls and boggy areas only yielded a few *Arion ater* agg. and a single *Oxychilus alliarius*. In contrast the immediate area of the farm providing an interesting small oasis for a total of 20 species of snails and slugs. The species list is as follows: *Arion ater*, *Arion distinctus*, *Arion fasciatus*, *Arion rufus*, *Boettgerilla pallens*, *Aegopinella nitidula*, *Balea sarsii*, *Cepaea nemoralis*, *Clausilia bidentata*, *Cornu aspersum*, *Cochlicopa lubrica*, *Deroceras invadens*, *Deroceras reticulatum*, *Discus rotundatus*, *Lauria cylindracea*, *Nesovitrea hammonis*, *Oxychilus alliarius*, *Oxychilus cellarius*, *Oxychilus helveticus navarricus*, *Trochulus striolatus* and *Vitrea crystallina*.

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Contested *Emarginula* (slit limpet) specimens from the Channel Islands

Paul Chambers

Historical biological reports can present all manner of problems to the modern recorder. The amateur and even professional naturalists of yesteryear were often more concerned with producing lists of species than they were with recording the location and circumstance of their specimens' discovery. They were also too willing to accept the word of others as to the provenance and identification of specimens handed or sent to them by local naturalists, fishermen and others.

By such means, the Victorians and their successors included many exotic species within the British flora and fauna that later had to be expunged when further specimens did not appear. With the aid of greater knowledge about the range of individual species, some of these suspect historical records are obviously wrong. Others, however, are not so clear-cut and end up with a question mark next to them. This is the story of one such instance.

The Channel Islands are on the southern fringe of the British botanical and zoological province and were often visited by scientists in search of animals and plants not found in the United Kingdom. One such major expedition was organised in 1865 by the Society for the Advancement of British Science, several of whose senior scientists spent six weeks dredging the seabed around Jersey and Guernsey for marine specimens.

Amongst those attending was John Gwyn Jeffreys, a highly skilled biologist and the author of the authoritative multi-volume *British Conchology*. In previous years, Jeffreys had corresponded regularly with the Lukis family on Guernsey, who were themselves accomplished naturalists, and so he was already familiar with the island's marine molluscs. In his 1865 visit Jeffreys was nonetheless surprised to receive specimens from three species that had no previous British record. These were: *Triton cutaceus*, *Purpura haemastoma* and *Emarginula cancellata* (Jeffreys, 1865).

All were claimed to have been collected alive from either Guernsey or Herm. Jeffreys accepted the first species as native (it having been previously recorded in Brittany) and while he did include the other two species in his British list, a question mark was carefully placed next to them.

The record for *Purpura haemastoma* (a striking species of murex shell from the Caribbean and southern USA) was particularly suspect and, following further investigation, was swiftly removed from the British list. The three *Purpura* specimens handed to Jeffreys had allegedly been found (one dead, two alive) in St Peter Port harbour and then sold to Sir Edgar Macculloch (later to be a President of La Société Guernesiaise). Some years afterwards, several other Caribbean specimens were found in Macculloch's collection that were labelled as being from the Channel Islands and it was supposed that he had been the victim of an unscrupulous local dealer (Chambers, 2008).

Jeffreys' record for *Emarginula cancellata* (now called *E. sicula*) proved to be more problematic. This is a southern European species of slit limpet and its discovery came at a time when other spectacular southern marine species had been discovered in the Channel Islands including the triton shell (*Charonia lampas*), Jersey top shell (*Gibbula pennanti*) and, of course, the ormer (*Haliotis tuberculata*). Jeffreys had

been handed two specimens that had been personally found on Herm by an accomplished local biologist, J.P. Gallienne, whom he and the Lukis family trusted. (Gallienne later had a species of burrowing sea cucumber named after him.) To be on the safe side, *E. cancellata* was kept in the British fauna list and was even featured in George Sowerby's 1887 monograph of British molluscs.

A few years later saw the prolific conchologist James Thomas Marshall take an interest in the matter. Marshall lived in London but had grown up in Jersey and in the 1890s had set about making a review of the entire British molluscan list. In 1894, he wrote up the limpets noting of the records for *E. cancellata*:

'I fear that there has been some error as to its origin. Herm has been well-searched since the two alleged specimens were taken by Mr Gallienne thirty years ago, yet no further specimens have been found, and Mr Gallienne's collection in the Guernsey Museum certainly does not contain these two specimens. I think it should be put in the same category as other species that have had a supposed origin in Guernsey and Herm.' (Marshall, 1894)

Twenty years later Marshall touched upon the subject again but this time was less circumspect in his conclusion: 'It should be expunged from the British list. A final search in the Guernsey Museum has again failed to reveal the existence of these specimens.' (Marshall, 1914).

The record for *E. cancellata* was duly removed from the British list and there the matter has rested ever since. The presumed lack of any specimens to examine (and only a poor illustration in Sowerby's 1887 catalogue) sealed the fate of this historical record and, although no official explanation has been offered, it has been assumed that Jeffreys had misidentified one of the two slit limpet species native to the Channel Islands: *E. fissura* and *E. rosea* (figure 1). Indeed, this was my own presumption when I compiled the entries for slit limpets in my 2008 review of Channel Island molluscs (Chambers, 2008).

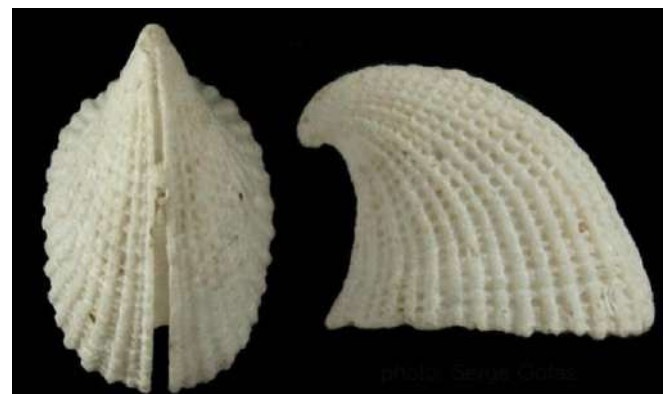


figure 1: A specimen of *Emarginula rosea* length (l.) 8.2 mm. (courtesy Serge Gofas)

There is, however, an addendum associated with Marshall's insistence that *E. cancellata* be removed from the British list. In the same year that he first made this suggestion, 1894, Marshall announced that he had discovered 'a perfect specimen of *Emarginula elongata*' on Shell Beach at Herm (figure 2).

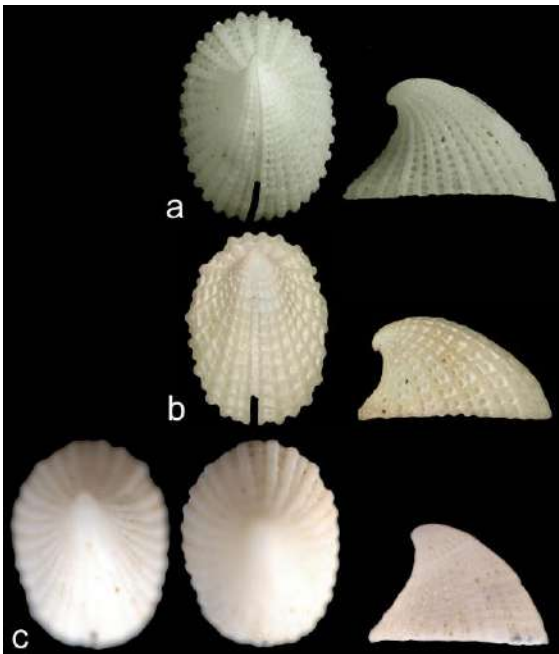


figure 2: Specimens of (a) *Emarginula fissura* (courtesy Serge Gofas) length (l.) 8.2 mm; (b) *E. elongata* collected by Marshall in 1888 (courtesy National Museum Wales) l. 6 mm; (c) specimen labelled *E. elongata* from the Krohn collection (author) 1.4 mm.

E. elongata (now called *E. octaviana*) is also only known from southern Europe and so just as exotic as the Jeffreys records of *E. cancellata*. Marshall's lone specimen was found by him in 1888 and, being an empty shell and not a live specimen, he did not seek to claim that it was native to the Channel Islands. Instead he hinted that the shell might have been transported from further afield by the 'many currents [that] converge on Herm Island' (Marshall, 1894).

More specimens came to light in 2009 when I was asked to examine a shell collection that formed part of the estate of the late Professor Krohn. The collection was large, occupying almost every corner the gentleman's house. It was also unusually well documented with each specimen having a record card associated with it.

Almost all the specimens were from tropical waters but there was one small shelf of Channel Island specimens which were later donated to La Société Jersiaise by the family. Amongst these were two slit limpet specimens that were labelled '*Emarginula elongata* – HERM – DEAD – 1971'.

I was reminded of the slit limpet specimens that Jeffreys and Marshall had reported from Herm and thought that the issue was worth looking into further. However, this meant tracking down the original two specimens of *E. cancellata* handed to Jeffreys in 1865, and the single specimen of *E. elongata* found by Marshall in 1888.

It may be recalled that Marshall had made two fruitless searches for the Jeffreys specimens amongst the shell collections held at the Guernsey Museum. However, I was aware that one of the specimens had been illustrated in the Sowerby catalogue of 1887 and that all these drawings had been based on specimens held in Jeffreys's personal collection. If so, then one would not expect the shells to be in Guernsey, but with the rest of Jeffreys's specimens in the Smithsonian Museum of Natural History in Washington DC. The Smithsonian curator informed me that they did indeed have two specimens of *E. cancellata* labelled as being from

Guernsey amongst the Jeffreys's collection and that they would photograph them for me.

Tracking Marshall's specimen down proved to be just as straightforward. His entire collection had been deposited with the National Museum of Wales which, by chance, had just been re-catalogued. The Herm specimen of *E. cancellata* was quickly traced and the Museum's curator kindly agreed to photograph it.

By 2010, I knew of five slit limpet specimens which, according to their finders, were from species that normally live considerably to the south of the Channel Islands. It was my hope that a modern examination of the specimens (or at least photographs of them) could help make sense of this thorny taxonomic issue.

The entire family of European slit limpet species had been revised in 1982 by the Italian conchologist Piero Piani. In 2010, I contacted Mr Piani but unfortunately he had given up conchology and did not want to offer an opinion on the Channel Island specimens. He did, however, provide a copy of his 1984 monograph on his slit limpet revision which remains by far the most detailed guide to the species in Western Europe.

Piani's monograph provides detailed descriptions and photographs of *E. sicula* (= *E. cancellata*) and *E. octaviana* (= *E. elongata*) as well as the two local species *E. fissura* and *E. rosea*. The five problematic specimens were compared with Piani's work.

A further comparison was made to a large number of local specimens of *E. fissura* and *E. rosea* that had been obtained from shell-sand deposits at Les Écréhous and La Corbière (the latter courtesy of Graham Long). Finally, the conchologist Professor Serge Gofas (University of Malaga) provided additional specimen pictures for all the slit limpet species and also offered an opinion on the pictures of Jeffreys's specimens. A comparison of the Krohn, Jeffreys and Marshall specimens with all the above led to the following conclusions.

When compared with the local specimens from Les Écréhous and Corbière, it could be said with reasonable certainty that of the two Krohn specimens (both labelled as *E. elongata*), one was a misidentification of *E. fissura* while the other was a misidentification of *E. rosea*.

A study of the photograph of Marshall's specimen (labelled *E. elongata*) found little similarity between it and descriptions/photographs of *E. octaviana* (= *E. elongata*). Instead it would appear to be a misidentification of the local species *E. fissura* although examination of the actual specimen would be preferred to be certain.

However, the two Jeffreys specimens (labelled *E. cancellata*) remained an enigma. The two specimens do not match either of the local species but instead fit the description of *E. sicula* (= *E. cancellata*) very well (figure 3). Photographs of the Jeffreys' specimens were forwarded to Professor Gofas who came to the following conclusion:

'I think they are *Emarginula sicula* Gray, 1825 (= *cancellata* Philippi, 1836) which means Jeffreys' identification on the labels was correct as usual. This is a Mediterranean species, ranging on the whole Mediterranean except Alboran Sea. Anyway, nothing such exists in the [English] Channel so it is best to conclude on mislabelled specimens.'

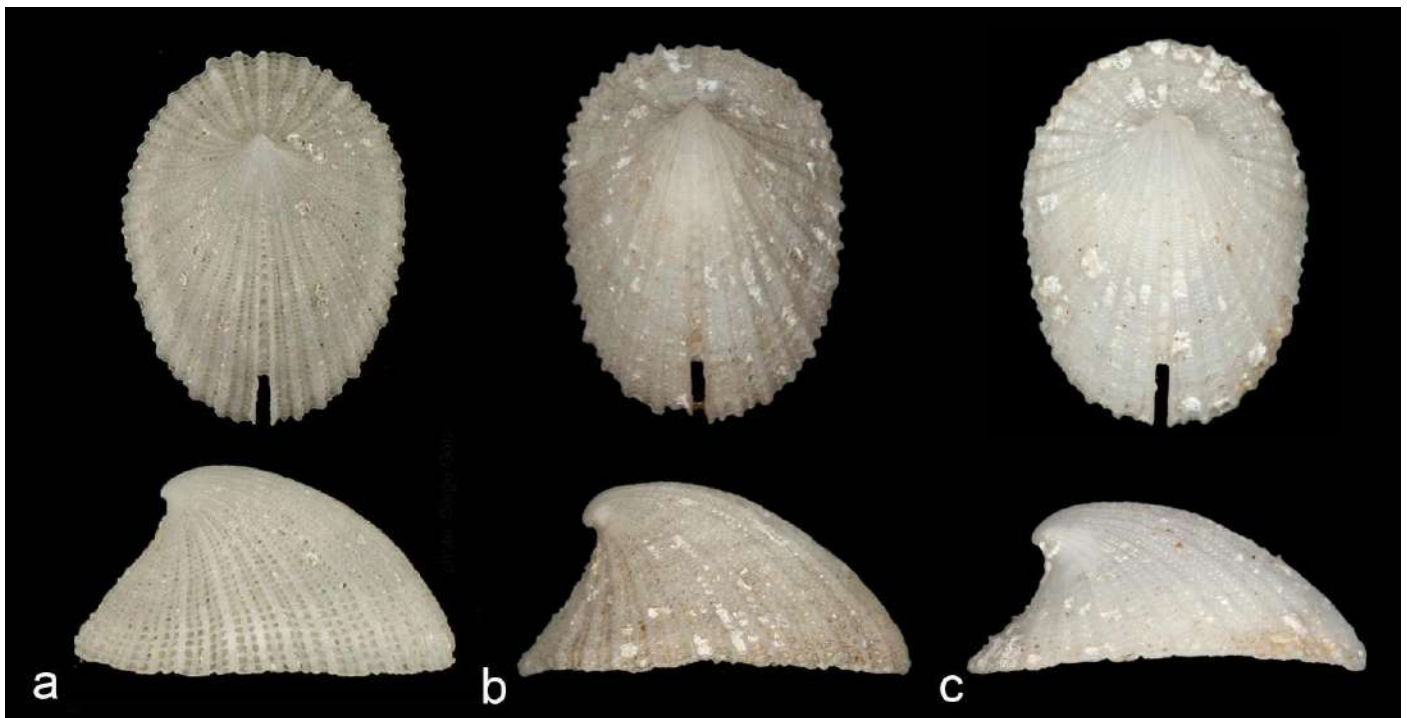


figure 3 (a) A specimen of *Emarginula sicula* (courtesy Serge Gofas) l. 8.2 mm; (b and c) Specimens labelled *E. cancellata* collected by J.P. Gallienne and handed to J.G. Jeffreys in 1865 (Yolanda Villacampa, National Museum of Natural History, Smithsonian Institution, Washington, DC) l. (a) 14 mm, (b) 11 mm.

An examination of the actual specimens is needed but it would seem that the two Jeffreys specimens from Herm may have been correctly identified by him as *E. sicula*. Professor Gofas' thought that specimens have been mislabelled is a logical conclusion but a more intriguing possibility remains.

Although *E. sicula* is predominantly a Mediterranean species, it does occur on the Atlantic coasts of Europe and specimens have been recovered from Morocco up to the northern part of the Bay of Biscay. The northernmost specimens are still some 300 km to the south of Herm but does bring *E. sicula* close to the Channel Islands region. Indeed, Piani gives the Channel Islands as the northerly limit of *E. sicula* although this is probably based on the Jeffreys 1865 report (Piani, 1984).

It is gratifying to speculate that the two Jeffreys specimens, if really *E. sicula*, were found alive on Herm by Mr Gallienne and that, after all these years, the species should be included on the British faunal list. In Victorian times there were a number of southern European marine species found in the Channel Islands that have since become extremely rare or locally extinct (e.g. *Cymatium cutaceum*, *Charonia lampas* and *Scyllarus arctus*). Maybe *E. sicula* is another example? However, unless further specimens can be found, we shall have to content ourselves with Mr Gallienne's two shells and the possibility that the Channel Islands were, perhaps briefly, host to what would surely qualify as one of Britain's rarest molluscs.

Acknowledgements

The author would like to express his gratitude to the following people for the assistance in this study: Jennifer Gallichan, Professor Serge Gofas, Mike and Patrick Krohn, Dr Jan Light, Reverend Graham Long, Piero Piani, Yolanda Villacampa.

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In the thick of it: the jungles of the Solomon Islands Simon Aiken

This is a version of Simon's article that first appeared in *American Conchologist* 39 (2), June 2011*

'But we have nobody to cook!' exclaimed the owner of the town's only restaurant, excusing why they were closed at dinnertime. No doubt this delicious ambiguity was unintentional, in a country notorious for cannibalism well into the 20th Century, but it shows what the modern traveller in the Solomon Islands must expect. And I was in the third largest town in the country.

In a previous *Mollusc World* (issue 38, July 2015) I wrote of my quest for seashells in the Solomon Islands, a huge archipelago almost untouched by tourism. Flying over the larger islands reveals steep mountains covered in dense jungle with no roads and almost no inland settlements. Except in a few areas, there has been little deforestation, so 90% of the country is rainforest. It is challenging terrain, to be sure, but very promising for the landsnail collector. A good machete is essential; a relaxed attitude to hygiene is helpful. Swampy areas in the jungle are popular with leeches; innocuous looking plants such as the *nalato* and *hailasi* will cause serious blisters if touched. The jungle is divided by fast flowing streams and rivers while trails are prone to flash flooding. The 'roads' (apart from in Honiara) are still made from dead coral; they were constructed by US Navy Seabees in the 1940s and there has been no reason to upgrade them.

The Marau area of Guadalcanal holds the dubious title of the second wettest place on earth. A year's rainfall here can be 1.27 m – over 20 times the amount that falls on London. The soil is rich and volcanic, with some limestone areas. Promising habitats for snails, certainly, and one must wonder how many exotic species await discovery in these almost impenetrable rainforests. I could say that my most successful landsnail collecting was in the rain, but it was almost always raining!

The range of molluscan fauna in the Solomons bears similarities to New Guinea and the Bougainville Islands, but there is a high proportion of endemic species. The colourful *Papuina* and *Megalacron* are varied and conspicuous and many are endemic to just one island. The migration of species has generally been eastwards – from Malaysia, through New Guinea, and then down through the Solomons.

There are relatively few mammals in these islands. There are several species of rat, but the larger tree-climbing ones (bigger than domestic cats!) are endangered or extinct. The main predators of snails are presumably birds, and the Solomons certainly has a rich ornithological fauna. The three foot long Blyth's hornbill (*Aceros plicatus* Forst, 1781) is common in the forest canopy, especially in New Georgia province. This noisy omnivorous bird is the most easterly of the world's hornbills.

Most Solomon Islanders live in small villages on the coast. The rainforest is so dense that travel between villages is by dugout canoe. The median size of a settlement is just 41 people and perhaps it is this emphasis on small close-knit communities that has helped preserve many traditional aspects of their life. Society is matrilineal, with land inherited through

the female line, a tradition stemming from head-hunting days when so many young men died violent deaths. There is no electricity apart from in a handful of towns, and no running water. Houses are still built of raw materials from the jungle. Following the devastating 2007 tsunami there was a little migration from coastal villages to inland sites. So sometimes the traveller comes across a 'clearing' in the jungle with a couple of hastily erected shelters and a small area of crops. Mostly though, the Solomons has a distinctly 'time-warp' feel about it.

The Solomons had its place on the world stage in the 1940s. The Japanese built an airfield on the coast of Guadalcanal which would threaten Allied territories as far away as Australia. American landings on Guadalcanal eventually pushed the Japanese off the island (December 1942), but at terrible cost to both sides. That airfield – renamed Henderson Field – is still the only international airport in the Solomons. It is not much to look at, as airports go, without so much as a vending machine. Historically though it is one of the world's most significant airports, because the Japanese never recovered from that defeat. Admiral Raizō Tanaka of the Imperial Japanese Navy stated: 'On that insignificant shore, inhabited only by islanders, Japan's doom was sealed.' (Tanaka R. and Pineau R. (1956) *Japan's Losing Struggle for Guadalcanal*, Part II, *USNI Proceedings*, 82 (7)).

In 1943, the Japanese remained entrenched in New Georgia, where they had built an airbase at Munda. To supply their Munda troops, Japanese warships used 'The Slot' – the strip of deep water that divides the Solomons into two parallel island chains. We now call it the New Georgia Basin. It's a significant geographical feature because it separates the quite different molluscan faunas on each 'side' of the Solomon Islands. In the jungles of Munda it was sobering to think that I was searching for snails on the site of some of the most brutal and messiest close-quarter fighting of WWII. It felt surreal to cut through the thickest jungle and then suddenly encounter barbed wire – 1940s barbed wire, of course. Any traveller here should certainly see the Peter Joseph WWII Museum, which houses a remarkable collection of artifacts from both sides of the conflict. Exploring in this jungle will certainly turn up war-related items, even now. At the museum I saw bags of human bones, recently collected and awaiting repatriation.

I illustrate on the next four pages some of these islands' most beautiful snails, many of which I was fortunate enough to photograph in their natural habitats. For a scientific treatise on Solomon landsnails, the reader should seek the books of André Delsaerdt. Volume 1 of 'Land Snails on the Solomon Islands' covers the *Placostylus* and Volume 2 the Camaenidae (L'Informatore Piceno, Ancona, 2010 and 2012).

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figure 1: *Crystallopsis hunteri* (Cox, 1872) is one of the many exotic representatives of the family Camaenidae in the Solomons. This specimen was in dense foliage near the village of Suhu, in the Marau district of southern Guadalcanal. The shell is transparent and fragile. Sub-adults appear green, because of the animal's colouration.



figure 3: Most references describe this species as *Papuina vexillaris*, but the true name is *P. fringilla* (Pfeiffer, 1855). Two contrasting forms are well known, shown here with the live animals in the jungle several miles from Munda, New Georgia. The best-known form has a prominent purple/rose lip and a similarly coloured apex. Alternatively, the whole shell is cream with a white lip, often with a less-rounded body whorl. I was, however, able to find other important variations. Some purple-lipped specimens do indeed have a white apex (top row, second specimen), and I found two specimens with a purple apex but white lip (top row, fifth specimen). Multi-banded forms (bottom row) or shells with brown or pink body whorls are also rare. The variations shown here range from 19 to 25 mm.



figure 2: A conspicuous Marau snail is *Megalacron sellersi* (Cox, 1872). The upper-right specimen is the typical form (18.2 mm) and below it is a variation (18.9 mm).



figure 4: This is the 'real' *Papuina vexillaris* (Pfeiffer, 1855), also from Munda (24–25 mm). Although the shells familiar in collections are pure white, in life the shell is covered in a layer of algae – which presumably aids camouflage. Very careful cleaning can preserve much of this green algae (top right).



figure 5: *Chloritis eustoma* Pfeiffer, 1842 (18.7 mm) has a flaky brown periostracum, covered in tiny hairs. I found a few live specimens in Guadalcanal and New Georgia.



figure 6: In the Roviana language of Munda, a snail is 'suloco'. The most conspicuous *suloco* to the townspeople of Munda is *Dendrotrachus helicinooides cleryi* (Récluz, 1851), which lives on trees and bushes in the town itself. The specimens here (13.7– 19.2 mm) show the range of colours, patterns, and size. In Guadalcanal, I found the relatively unpatterned nominate form.



figure 7: This 'semi-slugg' in the jungles of New Georgia belongs in family Helicarionidae. The coiled internal shell is clearly visible. The damage to the leaves is largely due to grasshoppers, not to molluscs!



figure 8: *Placostylus strangei* (Pfeiffer, 1855) from New Georgia: (1) normal adult (50.5 mm); (2) specimen with a deformed lip (43.7 mm). The Solomons is home to 39 described species and subspecies of *Placostylus*, all endemic and many confined to just one island. In 1893, Charles Hedley postulated *Placostylus* distribution as evidence of a former 'Melanesian Continent' – a theory long-since disproved by geological studies. The dispersal of the *Placostylus* species is still poorly understood and seems to be from southeast to northwest, opposite to the direction taken by other flora and fauna in the Solomons.



figure 9: These *Partula* from two different provinces show consistent differences in shape, but are considered the same species: *P. flexuosa* Hartman, 1885. (1) Guadalcanal specimen, 14.6 mm; (2) New Georgia specimen, 15.3 mm. The living animal was photographed in Marau. Both Pilsbry and Crampton used the distribution of *Partula* species across the Pacific islands as evidence of a former Late Paleozoic or Early Mesozoic continent in the middle of what is now the Pacific Ocean.



figure 11: Beautiful Trochomorphae are found in the Solomons. *Trochomorpha deiopieia* (Angas, 1869) (left images, 19.1 mm) is easily confused with the much better known *Trochomorpha meleagris* Pfeiffer, 1855 (centre images, 20.3 mm, and live animal). The spire elevation is the main distinguishing feature of these two species which coexist in New Georgia.



figure 14: The widely distributed *Palaeohelicina moquiniana* (Récluz, 1851) is found in three distinct colour forms in the Solomons. These specimens (8.6–8.9 mm) are from the Munda area in New Georgia.



figure 12: *Trochomorpha xiphias rubianaensis* Clapp, 1923 is one of the most beautiful of its genus. These specimens (17.7–18.9 mm) were found around the town of Munda.



figure 15: *Palaeohelicina spinifera* (Pfeiffer, 1855) is a much more secretive species, inhabiting dark and damp corners in the jungle. There are several contrasting colour forms. The three specimens here (13.6–15.0 mm) were found in Marau; the live animal is slightly sub-adult.



figure 13: The operculate family Cyclophoridae is well represented in the Solomons. The easily overlooked species *Pseudocyclotus levis* (Pfeiffer, 1855) is one of the smallest (7.3 mm in shell height) and was found in the jungles of New Georgia.



figure 16: The author examining *Leptopoma woodfordi* Sowerby, 1889 on a leaf in the jungle of Marau. Right: (1) *L. woodfordi*, 16.9 mm; (2) *L. dohrni* (Adams & Angas, 1864), 16.4 mm, also from Marau; and (3) *L. perlucida* (Grateloup, 1840), 13.4 mm, from New Georgia. The animal of *L. perlucida* is a striking yellow colour.



figure 17: A typical Marau house in Vutu village. Traditional building materials and methods are still the standard. The tropical rain is so heavy that flash floods are common throughout the year, hence all houses are built on ‘stilts.’ The frequent flooding means there are rather few ground-dwelling mollusc species in the Solomons. One exception is *Subulina octona* (Bruguière, 1792), shown on the right. In this 20.9 mm specimen, two eggs are clearly visible.



figure 18: George from Suhu village collects in the Marau jungle. The shell he is reaching – at 2.4 m off the ground – is the ‘freshwater’ snail *Neritodryas cornea* Linnaeus, 1758. A complete surprise in this habitat was that a supposed freshwater species exploited such a niche; live *Neritodryas* were common among this vegetation, a considerable distance from flowing water.

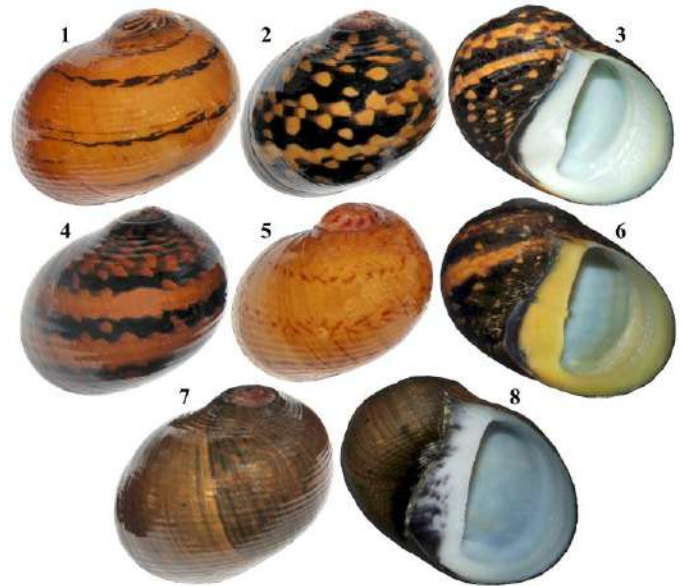


figure 19: Variation in *Neritodryas cornea* (1–6; 21–25mm) from the Marau jungle. It is likely that the variety with a yellow aperture (6) will be described as a separate species in the future. *Neritodryas subsulcata* Sowerby, 1836 (7, 8; 24 mm) is a related species that can easily be confused with *N. cornea*. The black mottling on the parietal shelf of *N. subsulcata* is characteristic. Both of these species are primarily arboreal (see figure 18), yet there are plenty of records in existence that incorrectly list ‘freshwater stream’ or ‘lake’ as the habitat. On the other hand, little is known of the reproductive traits of this genus and it is probable that they return to water to lay eggs.



figure 20: *Thiara cancellata* Röding, 1798 is neither rare nor endemic to the Solomons. Finding specimens with their spines intact was truly satisfying, however. This 30.7 mm specimen is from the Vilavila River in Guadalcanal. As the river flows out into Marau Sound it joins the Vainihaka River and several interesting freshwater species are found: *Thiara winteri* von dem Busch, 1842; *Tarebia granifera* (Lamarck, 1822); *Melanooides aspirans* (Hinds, 1847); the ubiquitous *Faunus ater* Linnaeus, 1758; *Neripteron dilatatum* (Broderip, 1833); *Neritina variegata* (Lesson, 1831); long-spined *Clithon donovani* Récluz, 1843; *Septaria porcellana* (Linnaeus, 1758); and the endemic bivalve *Hyridella guppyi* (Smith, 1885).

Acknowledgements

Throughout my travels in the Solomons I found the villagers friendly, very hospitable, and more than willing to help find shells – especially the children. My sincere thanks go to the people of Suhu, Vutu, and Hautahe in Marau, especially Morris, Priscilla, George, and Joe, and all the villagers of Kiapatu in New Georgia, especially Sycamore and his family. For assistance with this article I thank Tom Eichhorst, Mike McCoy, and G. Thomas Watters. In particular, I thank André Delsaert for his expert help with the identification of Solomon Island landsnails. All photographs appear courtesy of Simon’s Specimen Shells Ltd (www.simons-specimen-shells.com).

The New Guinea Flatworm – devastating snail populations worldwide

Adrian Sumner

‘Flatworm invasion could wipe out Britain’s ENTIRE snail population...’, exclaimed the *Daily Mail* on 24th March 2014. *The Guardian* of 4th March 2014, with its thoughts no doubt on higher things, took a more serious line: ‘New Guinea flatworm threatens to take snails off menus in France’. What is this creature, and why is it such a serious threat?

The New Guinea flatworm, *Platydemus manokwari*, is included among the 100 worst invasive species in the world by the Global Invasive Species database (www.issg.org/database/species/search.asp?st=100ss). It grows up to 65 mm long and up to 7 mm wide. Above, it is black, with a pale longitudinal stripe, and the sole is also pale (figure 1). It appears to come originally from New Guinea, where it lives at altitudes of up to 3625 metres, but it also occurs on many islands in the western Pacific, as well as Queensland and the Maldives; in many cases it has been introduced deliberately to control giant African land snails. In this it has been highly successful, but unfortunately it is not fussy, and will apparently eat any species of snail. On many Pacific islands it has greatly reduced numbers of all snails, including endemics, some of which it may have driven to extinction (Hopper & Smith, 1992; Sugiura, 2009). The flatworms can find snails by following slime trails and will sometimes aggregate to overwhelm a snail by force of numbers. Although they do not prey on snail eggs, they readily attack tiny hatchlings as soon as they emerge (Iwai *et al.*, 2010). They can climb trees and destroy snails at least a metre above ground. The New Guinea flatworm does not spread far on its own, but can be dispersed widely with plant material and with potted plants (Justine *et al.* 2014). A full account of this species is available at www.cabi.org/isc/datasheet/42340.



figure 1: The New Guinea flatworm, *Platydemus manokwari*. Reproduced from Figure 1 in Justine *et al.* (2014) under Creative Commons licence CC-BY 4.0. © 2014 Justine *et al.*

The effects of the New Guinea flatworm on the snail populations on some Pacific islands is quite appalling, but why the concern in British newspapers? Early in 2014, Justine *et al.* (2014) reported the finding of the New Guinea flatworm in France, in the Jardin des Plantes in Caen, Normandy. The specimens were found in a hothouse, and it seems they may have been present for several months. They were probably introduced with potted plants, either as eggs or cocoons, and so it is likely that they could be introduced almost anywhere in this way.

Since then, the New Guinea flatworm has been found in several more places, in part because of the publicity arising from the 2014 report by Justine *et al.* The infestation in the hothouses at Caen seems to have been contained (though the flatworms are still present there), and there have been no further reports of this species from elsewhere in France, despite extensive publicity (Justine *et al.*, 2015). However, *P. manokwari* has been discovered on several more Pacific islands, including Singapore, where it still seems to be spreading, and in New Caledonia, where it appeared to be a new arrival in 2014. It has been reported to attack *Achatina* in New Caledonia. Most alarming, perhaps, is the arrival of the New Guinea flatworm in America, where it was first found in Florida in 2012, in the Miami area, and in Puerto Rico, where it was discovered in December 2014 (Justine *et al.*, 2015). Most reports of *P. manokwari* are from islands, where the possibilities for spreading are obviously limited, but its arrival on mainland North America raises the possibility that it could invade the whole of the North and South American continents, with devastating effects on populations of snails and other invertebrates there. The currently known distribution of this species is illustrated in figure 7 of Justine *et al.* (2015).

P. manokwari prefers humid conditions, so is likely to flourish in moist hothouses, but could perhaps get established in suitable areas outdoors. Although it is a tropical species, its native habitat seems to be at high altitudes, so it does not necessarily require high temperatures. However, Sugiura (2009) found that it seems to be less active, and causes less damage to snail populations, at lower ambient temperatures. He suggests that a minimum temperature of 10°C is required for this species to establish itself. One can never be sure about the effect of an introduced species, however, and clearly there is the potential for significant damage.

No satisfactory control measures are available for the New Guinea flatworm. It appears to have no natural predators, and like many flatworms is distasteful to birds and herpetofauna. Individual plants in pots may be treated by immersing the pots in hot water (Justine *et al.*, 2014), but clearly such a method is not practicable for large-scale treatment. Constant vigilance is needed to avoid importation of these creatures, or better still, banning all imports of plant material likely to contain flatworms and other potentially invasive aliens.

The New Guinea flatworm is not the only snail-eating flatworm with potential to cause trouble. At least 18 species of introduced flatworm have been recorded in Europe, and of nine identified in Spain, three will eat molluscs (Álvarez-Presas *et al.*, 2014). Although many of these seem to be restricted to garden centres and plant nurseries, and do not seem to have achieved pest status, this could well be possible in the future. British conchologists will be familiar with introduced species that have escaped into the wild and spread widely (e.g. the ‘greenhouse’ slug, *Ambigolimax valentianus*), or which from a very restricted distribution have now colonised much of the country (e.g. the girdled snail *Hygromia cinctella*). Similarly, the New Guinea flatworm might easily spread widely if it were ever to reach Britain.

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Launch of the ‘Response for Nature Reports’, 13th October 2015 *Peter Topley*

The 2013 RSPB-driven ‘State of Nature’ report, to which the Conchological Society contributed (Willing, 2014), documented the decline of our wildlife and posed the question: ‘how should we respond?’ The British Government has committed to produce a 25-year plan to restore the UK’s biodiversity. The ‘Response for Nature’ report, a collaboration between 34 conservation organisations across the four UK countries, including the Conchological Society, is a ‘top level’ analysis of what nature needs and sets out a challenge to both government and to nature NGOs (Response for Nature Partnership, 2015). My wife Caren and I attended the English launch event at Church House Conference Centre, Westminster, together with invited representatives of conservation organisations and MPs from both chambers. At the event key elements were proposed that it is believed should form the architecture of the government’s plan, together with specific actions for delivery.

The ten major areas in the report are outlined under the heading ‘What nature needs’. These, in extreme summary, are (1) Set an inspiring vision so that nature is part of all our lives; (2) Set realistic but ambitious goals for nature and natural capital by safeguarding more of our land and sea; (3) Defend and implement the laws that conserve nature; (4) Deliver an ecological network on land and sea linked to the wider landscape; (5) Safeguard species by preventing extinctions and restoring populations to a healthy status; (6) Improve people’s connection to nature; (7) Provide smarter financial instruments (e.g. taxes and funding); (8) Develop greener institutions and embed nature across government; (9) Set five-year milestones with accountability to Parliament and (10) Support people working together for nature. This last ‘Ask’ is focused on everyone in the conservation movement (including ourselves) that we should work together to do a number of things including: ‘proactively inspire people about nature’; provide opportunities for volunteering; care for the places we manage; provide updates on what is happening to nature (recording) and ‘be a voice’ for nature.

An introductory talk was given by the ‘celebrity guest speaker’ TV naturalist Steve Backshall, who set out why nature matters, and why it is important for politicians and decision makers to

take action. Following this, Rory Stewart MP, Parliamentary Under Secretary of State at the Department for Environment, Food & Rural Affairs (DEFRA) spoke about the issues around the implementation of the plan. He noted that the UK is now more densely populated than India and that there are huge changes and increasing pressures on the landscape brought about by man over the centuries. He pointed out that a similar proportion of the UK landscape remains woodland as it was centuries ago but that much of this woodland is monoculture forestry. He said that the plan to restore biodiversity ‘would not be easy to bring into reality’, that the report reminded us ‘not to forget species’ when we look to preserving whole habitats and that the government would look to ‘move forward together’ with NGOs. The restoration of Hadrian’s Wall was given as an example of success where preserving ‘cultural values’ had led to the safeguarding of the natural landscape in local areas but that detailed and scientific conversations were needed into how to make limited resources work together. A serious systematic, evidence based framework was required whilst involving the public who have a knowledge of their own local areas. The plan should be ‘based on open, inclusive science with public involvement’.

Dr Martin Warren, Chief Executive of Butterfly Conservation, then suggested some of the major issues and needs facing UK conservation. These included the need to (i) unlock access to nature for the public by developing a network of green and blue spaces near to where people live; (ii) halt the continued biodiversity loss across Europe; (iii) involve more young people in nature through education and other routes. He acknowledged that there have been many good initiatives, some of which are now under threat, such as the EU ‘Birds and Habitats Directive’, agri-environment schemes and species recovery programmes. However, there needed to be far more innovative and effective initiatives and a wider recognition that nature is essential to our well-being. There had to be new and inventive ways of financing the consultation needs in implementing the government’s 25-year plan and this had not been sufficiently picked up in committee. The Government also needed to work closely with businesses to produce a business response. As far as the NGOs were concerned, they were already fully committed in areas such as recording and connecting people to nature; however, connecting civil society needed government support. DEFRA could not deliver the plan on its own and needed support from other government departments. Plans should be turned into action on the ground immediately.

A series of short ‘marketplace’ talks then followed. In particular, Sheila Wren of the John Muir Trust (the wild land conservation charity) spoke in defence of the EU Nature Directives which are under threat through REFIT, the European Commission’s Regulatory Fitness and Performance programme which aims to ‘make EU law simpler and to reduce regulatory costs’. This is likely to threaten the strength of the habitats directive, which has led in the past to the protection of many vulnerable species and habitats in the UK.

A similar launch event for the related Scottish document was attended by Adrian Sumner on behalf of this Society and other events were held simultaneously in Northern Ireland and Wales. While there are some common themes, there are also specific priorities for each UK country, with a separate report for each country.

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figure 1: Sampling the pond in the Paddock, Perivale Wood.

Five of us attended this meeting and we were guided around the wood in the morning by two members of the Selborne Society while in the afternoon we joined their field meeting ‘pond-dipping for adults’ (figures 1 and 5): they were keen for us to contribute on molluscs. Over a welcoming hot drink on arrival, Selborne Society Secretary, Andy Pedley, gave an outline of the history of the Society which was founded as a national body for natural history in 1886 (about ten years after the Conchological Society). This included the initial management of Perivale Wood (previously called Braddish Wood) from 1902, a peak UK membership of 2780 in 1914, the purchase of the wood in 1920/3 as a memorial to mark the bicentenary of the birth of the naturalist Gilbert White (from whom the Society takes its name), the falling away of the local branches reducing membership to about 25 after the Second World War and reinventing itself as a local natural history society (Ealing area, west London) focusing on the management of Perivale Wood: the current membership is circa 800. Their wood is an ancient oak woodland, full of bluebells in spring, listed as a Local Nature Reserve in 1974 and is a real surprise in suburban west London where it has been surrounded on two sides by development. On one side it is bounded by the canal beyond which is the large open space of Horsenden Hill, once farmland but now amenity. The Selborne Society holds an annual public open day on the last Sunday in April for the bluebells and it is well worth a visit, but they are very keen to invite groups like ours to enjoy the wood too by arrangement (the gates have to be kept locked due to its location). Visit their website (www.selbornesociety.org.uk) for more information including a history of the Selborne Society by Michael Blackmore and Rae Hall (who was serving us refreshments in the hut), map of the reserve, aerial photograph and publications, some of which can be downloaded. At the end of the meeting, we were shown the new Education Centre currently under construction that is made of straw bales and is scheduled for opening in 2016 (figure 2).

Perivale Wood Local Nature Reserve

The reserve consists of 27 acres (11 hectares) bounded to the north by the Grand Union Canal with Horsenden Hill open space beyond, to the south by a railway embankment and houses, to the west by industrial units and to the east by houses and recreation land. Cassini Historical maps for west London show little other woodland in the nineteenth century in what was a farmed landscape with much land devoted to grass providing hay for London’s horses. The reserve consists of 18 acres of ancient oak woodland, five acres of grazed pasture, two acres of damp scrub and two acres of disturbed land, four ponds and two small streams/ditches.



figure 2: Andy Pedley, Selborne Society Secretary, showing visitors around the new straw bale education centre now under construction at Perivale Wood.

Thirty species of molluscs are on the records for the reserve. The reserve is all on London Clay (deposited 35–56 mya) that gives a heavy acid soil with limited lime so reducing the potential snail fauna and in addition it forms a hard impenetrable surface when dry. There is an area (referred to as the dump) when rubble was deposited and here more lime-demanding snails like *Cornu aspersum*, *Monacha cantiana* and *Clausilia bidentata* were found. Water snails – *Radix balthica* (= *Lymnaea peregra*), *Lymnaea palustris* and *Physa acuta* (an American introduction) – were only found in the Pondfield. The damp area around Little Elm Meadow Pond (figure 3) yielded very little apart from *Vitrea crystallina* and no typical marsh species. Most of our finds were in the oak woodland, along one of the streams and the dump. There was evidence of thrush anvils with broken shells of *Cornu aspersum* and *Cepaea nemoralis* by the stream (not running at the time).



figure 3: Selborne Society leader Peter Warne sampling the pond in Little Elms Meadow.

The breakdown of finds during the field meeting was 11 species of land snails, 7 slugs and 3 water snails (table 1). Due to the very dry conditions, no leaf litter samples were taken from the wood.

The notable new finds were two introduced species of slug that have undergone recent rapid spread. A bright yellow example of a heavily patterned, coarse tubercled slug (figure 4) was found under a log and later two smaller less brightly coloured juveniles of *Limacus*. The yellow one would appear to be a hybrid between *L. maculatus* (the green Irish slug) and the long established *L. flavus* (or yellow slug).



figure 4: Probable hybrid of *Limacus maculatus* and *L. flavus* under a log in Perivale Wood.



figure 5: Examining the catch in 'pond-dipping for adults' at Perivale Wood.

From its first discovery in Ireland in 1968 (Chatfield 1974) the green slug differed in being found in woodland rather than urban situations, had coarser tubercles, greenish colour and different anatomy compared with the urban yellow slug normally found on walls and in buildings. Recent work on anatomy and also using modern DNA techniques in preparation for a new handbook on slugs (Rowson *et al.* 2014) has revealed not only the rapid spread of *L. maculatus* from Ireland on to the mainland of England, Wales and Scotland but also multiple hybridisation and it now appears that true *L. flavus* is hard to find once *L. maculatus* has established.* Rosemary Hill found another introduced slug that is spreading rapidly – *Ambigolima valentianus*: this is a native of Spain, first found here in greenhouses but since 1981 found outdoors, first in gardens (especially compost heaps) and around buildings but it is increasingly found in woodlands where it may displace the tree slug *Lehmannia marginata*. It would be worth while searching for the tree slug in the reserve on a wet day when they are likely to crawling up tree trunks on one of the all night meetings at The rounded snail *Discus rotundatus* proved to be the dominant species associated with dead wood on the ground, with larger logs retaining more moisture, with the occasional glass snail, *Oxychilus draparnaudi* and, in the more rotten logs, the garlic glass snail *O. alliarius*. Selborne Society members with us were intrigued by the strong smell of garlic that it emitted when prodded, its popular 'party trick' on field visits.

Scientific name	English name
<i>Aegopinella nitidula</i>	Waxy glass-snail
<i>Ambigolimax valentianus</i>	
<i>Arion ater</i> agg.	
<i>Arion distinctus</i>	Garden slug
<i>Arion intermedius</i>	Hedgehog slug
<i>Arion subfuscus</i>	Dusky slug
<i>Cepaea nemoralis</i>	Brown-lipped snail
<i>Clausilia bidentata</i>	Two-toothed door-snail
<i>Cochlicopa lubrica</i>	Slippery moss snail
<i>Cornu aspersum</i>	Common garden snail
<i>Deroceras invadens</i>	Caruana's slug
<i>Discus rotundatus</i>	Rounded snail
<i>Limacus maculatus</i> (hybrid)	Green x Yellow slug hybrid
<i>Lymnaea palustris</i>	Marsh pond snail
<i>Monacha cantiana</i>	Kentish snail
<i>Oxychilus alliarius</i>	Garlic snail
<i>Oxychilus draparnaudi</i>	Draparnaud's glass-snail
<i>Physa acuta</i>	Pointed bladder snail
<i>Radix balthica</i>	Common pond snail
<i>Trochoidea hispida</i>	Common hairy snail
<i>Vitrea crystallina</i>	Crystal snail

Table 1: List of molluscs (all live records) recorded at Perivale Wood on the Conch Soc field meeting, 1st August 2015.

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*Footnote

June Chatfield

Subsequent to the submission of this article Ben Rowson has seen the photograph of the slug and concludes: 'This is quite a bright yellow individual, although I can't see the tail where the central stripe should be if it was *L. flavus*. The stripe seems to be quite a reliable character according to Roy [Anderson] and I agree. *Limacus flavus* now seems to be quite rare so I think everyone needs to be cautious about recording it. Without anatomy or DNA I would hesitate to say it was anything other than *L. maculatus*.

I cannot prove beyond doubt that the two are hybridising, but the DNA data certainly suggest it, and it might explain the apparent changes. I think we can only be confident that an individual slug is a hybrid if it has the mtDNA of one "pure" parent species, but the appearance and anatomy of the other. The problem with spotting these is that hybrids need not be a nicely blended intermediate, and could look like either parent – especially after any backcrossing of course! Maybe one could study the variation and learn something about past hybridisation from it, but that would be a big job.'

British Shell Collectors' Club

Sat. 30th April 2016 [Shell Convention](#)
Sat. 29th October 2016 [Shell Show](#)

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

Saturday 13th August 2016

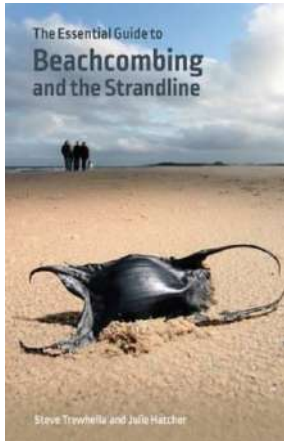
[Chatsworth Shell Fayre](#)
Cavendish Hall, Chatsworth House, Derbyshire DE45 1PJ.
Open from 9am to 4pm. Admission Free.

Please check web site for up to date and further information:
www.britishshellclub.org



Book Review: The Essential Guide to Beachcombing and the Strandlines.

Steve Trehwella and Julie Hatcher. Wild Nature Press 2015, paperback 304 pages. ISBN978-0-9573946-7-4



It has been my delight to walk strandlines throughout my living memory. I have found some 'treasures' for sure, but there are others, as illustrated in *The Essential Guide to Beachcombing and the Strandline*, that have eluded me. The possibility of filling some of these gaps is a reason I will never tire of walking a strandline wherever I find one.

This guide to beachcombing has been written by Dorset residents Steve Trehwella and Julie

Hatcher, people with a complementary range of expertise in marine biology, scuba diving, outreach, photography and a solid commitment to conservation. They are seasoned and highly knowledgeable beachcombers and have shared so much of their knowledge and enthusiasm in their book: a beachcomber's compendium which offers a well-informed insight into the processes and materials that contribute to the formation of strandlines: the ephemeral drifts of rejectamenta that the sea has deposited for us to find.

For many members of this Society, walking the strandlines is a familiar activity and indeed, regular recreational beach walkers will recognise many of the items described in the book. The opening sections introduce the strandline and give advice on how to get the best out of beachcombing. From the outset the value of reporting and recording sightings is emphasised. I thought the information in these opening sections would be familiar territory for me until I met the concept of 'water parcels'. They are discrete bundles of water with properties, determined by slight variation in temperature, which differ from the surrounding sea. Think of them travelling through the water as clouds float through air. This phenomenon helps to explain an intriguing feature of strandings; how two or more long-haul drift items may wash ashore on a UK beach within metres of each other, having travelled thousands of miles together.

There is a short section entitled 'Keeping Safe' which advises on the subject of tides, weather, unstable cliffs, soft muds and sinking sands. A mobile phone should form part of one's kit and hands should be washed after poking amongst detritus and decaying material. However one glaring omission in the safety section is the matter of dangerous debris. Stopped plastic and glass containers are often washed in with their contents. This may be seawater but could equally well be something hazardous or toxic. Other potential dangers are explosive items such as marine flares, and sharp objects. This is all the more important if you have young children with you.

The contents pages indicate the exhaustive coverage of what you may, or may not, expect to find washed up on a beach. A short introduction to beaches leads into seaweeds then molluscs right through the range of organic items that fetch up on the shore. I was particularly taken with the section on Mermaids' purses: egg cases of 12 elasmobranch (sharks, skates and rays) species are illustrated. Many people have heard of mermaid's purses but fewer have probably heard of a mermaid's glove (a sponge). Collectables such as jet,

amber, seaglass, desirable driftwood pieces... all these are described and illustrated. Sea beans, or drift seeds, are unusual and highly prized and I learnt about the Outer Hebridean folklore surrounding Mary's Bean, a protective talisman.

However, this book also deals with the downside of beachcombing and what the sea is saying to us. Carcasses, skeletal remains, oiled birds, live and dead strandings of cetaceans and turtles tell a sorry story. The tides dump tons of detritus: plastics, fishing litter, land-sourced and sewage-related detritus and the economic consequences and the problems for wildlife are only too evident. This is a necessary part of the dialogue the oceans have with we landlubbers. It throws our non-biodegradable rubbish right back at us. Unfortunately all too often marine animals ingest plastics such as bags and, increasingly, balloons which end up in the sea. They become ensnared in netting, the unnecessary loss of life is very sad. Concluding sections in the book give a more positive perspective: the strandline has its own ecosystem of plants, insects and arachnids and supports a variety of coastal birds.

The guide combines the attributes of a concise yet comprehensive treatment of beachcombing and strandlines. A stellar feature of the book is the profusion of excellent photographs which accompany descriptions of the common and rare beach finds, natural and man-made. What a useful book this would be to have on the bookshelves of houses in coastal towns and seaside holiday homes.

Postscript

At the time of writing this review the western and southwestern seaboard of the British Isles and Ireland are being pounded by persistent westerlies and southwesterlies, with sea states reaching high numbers on the Beaufort Scale. News of strandings, seemingly with unprecedented frequency and abundance, are being reported on the newsfeed of the Facebook page linked to Steve Trehwella and Julie Hatcher's book.

Four species of goose barnacle attached to floating substrates were cast ashore over a November weekend in Newquay. Three jewel box clam species (*Chama*) have been identified on a plastic stone crab pot, probably drifted from Florida, which fetched up on Praa Sands in Cornwall. Most spectacularly a huge piece of flotsam, a section of a US spacecraft, measuring about 10 m (32 ft) by 4 m (13 ft), was spotted floating at the sea surface between Bryher and Tresco and was towed ashore by local boatmen. They said 'We're grateful for all those who helped in its recovery, it was a great example of the community working together.' What a pity no-one in that community thought to suggest that hosing the item off, there and then, might result in a lot of useful and interesting biological information being washed away. As Steve commented on the *Essential Guide's* Facebook page, 'I'm afraid the "authorities" felt the need to steam clean them (the goose barnacles) all off, including numerous other species which would have settled, a one-off chance to study growth rates and potential invasive species on an object with an exact date of entering the Ocean...' Let's hope that Steve and Julie's guide finds its way into wider and wider circulation.

Jan Light

Mollusc World, Index to issues 20-39

Due to space constraints this summary index focuses on titles (abbreviated where necessary), first authors and species where these are the main subject of the contribution and excludes most editorials, announcements relating to meetings/sales, contents of Recorder's reports etc. For page numbers, the first figure indicates the issue number (e.g. 26.4 indicates page 4 for issue 26). Illustrations are generally not indexed unless they are not associated with an article. Note that page numbers were not printed in issue 36. An asterisk (*) before a name indicates an author.

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Sign seen at Blair Castle, Perthshire.

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The Conchological Society of Great Britain and Ireland is one of the oldest societies devoted to the study of molluscs. It was founded in 1876 and has around 300 members and subscribers worldwide. Members receive two publications: Journal of Conchology which specialises in Molluscan Biogeography, Taxonomy and Conservation and this magazine. New members are always welcome to attend field meetings and indoor meetings before joining.

Some key contacts (see web site [<http://www.conchsoc.org/pages/contacts.php>] and 2014 membership list for additional contact details)

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

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

SUBSCRIPTIONS and MEMBERSHIP

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

For general membership enquiries please contact:-

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

RECORDING AND CONSERVATION

HON. CONSERVATION OFFICER: Martin Willing
14 Goodwood Close, Midhurst, Sussex, GU29 9JG
Email: conservation@conchsoc.org

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

HON. NON-MARINE CENSUS RECORDER: Adrian Norris
17 West Park Drive, Leeds, LS16 5BL
E mail: nonmarine@conchsoc.org

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How to submit articles to Mollusc World

Copy (via e mail, typed or handwritten) should be sent to the Hon. Magazine Editor (contact details above). If sending copy using e-mail please include a subject line "Mollusc World submission". When emailing several large file attachments, such as photos, please divide your submission up into separate emails referencing the original article to ensure receipt. Electronic submission is preferred in Microsoft Word. Images and Artwork may be digitised, but we recommend that a digital image size 200Kb- 1.5Mb (JPEG preferred) be sent with your submission. All originals will be treated with care and returned by post if requested. Authors should note that issues of the magazine may be posted retrospectively on the Conchological Society's web site. The general copy deadline for the July 2016 issue is 5th June 2016 but note that due to other commitments in May it may not be possible for the Editor to reply promptly to any submissions/questions sent during this period and submissions prior to the end of April where possible are therefore encouraged; inclusion in a particular issue is at the Hon. Editor's discretion and depends upon the space available but contributions are always welcome at any time.

Advertisements in Mollusc World

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

Membership update

The following members have joined the Conchological Society recently or have not previously been included in either this column of Mollusc World or in the latest edition of the Members' Guide (2014). Please note that to be included here members must sign a data protection consent form. If you have not been included and now wish to be please contact Carolyn Postgate at CIRCA subscriptions (details above).

The codes in italics indicate the member's interests:

A – Applied conchology (shell artefacts/money, cooking, art etc);

B – Conchological books; *C* – Conservation; *D* – Diving;

E – Ecology and pollution; *F* – Fossils

G – General malacology including genetics/physiology;

Mb – British marine; *Mf* – Foreign marine;

Nb – British non-marine; *Nf* – Foreign non-marine; *P* – Photography;

W – Conchological poetry and prose; *Z* – Captive breeding of molluscs

(names and contact details removed)



Conchological Society of Great Britain and Ireland

Diary of Meetings

Continued from back cover

Monday 8th August 2016: WORKSHOP MEETING: Leeds Museum Discovery Centre.

Organiser: Terry O'Connor (0779 4040684, (osteoconnor@gmail.com)).

Details tba (see website): an opportunity to sort through and review Sunday's finds, and visit the mollusc collection.

Wednesday 10th August 2016: FIELD MEETING (non-marine): Thatcham, Berkshire RG19 3FU.

Organiser: Tom Walker (0118 987 4294; tom@tmwalker.cu.uk)

Vertigo moulinsiana was found last year (see *Mollusc World* 39) together with a good range of other species; we will survey areas which we did not explore last year.

Meet at 10.30 at Thatcham Discovery Centre (SU 506/671); ample parking and on-site cafeteria available.

Sunday 21st August 2016: YNU FIELD MEETING (marine): "Capturing our Coast" Bioblitz, Sandsend, Yorks.

Meet at 11:00 at car park at NZ 860/129. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Saturday 10th September 2016: FIELD MEETING (non-marine): Aqualate Mere National Nature Reserve, Shropshire.

Organiser Mags Cousins (mags.cousins@naturalengland.org.uk, 02080261249). Joint meeting with Staffordshire and Shropshire Invertebrate Groups.

Ramsar site with reedbed, swamp, alder carr, fen and rush pasture; molluscs include four species of *Vertigo*.

Meet at 10.30am in car park outside the office, at SJ 777/198 (postcode TF10 9DB). As this is a private property, please contact Mags if you are intending to come.

Saturday 17th September –Saturday 24th September, 2016: FIELD MEETING (marine): Plymouth area, Devon.

Organiser: Bas Payne (01647 24515, bas.payne@gmail.com).

Rocky coast with high diversity: good rock pools etc., sandy bays, also Plymouth Harbour and estuaries. Low spring tides (+0.1m) early afternoon 18-19 September. It is hoped that we can also organise some off-shore grab sampling.

Further details t.b.a.; please contact Bas if you are interested in coming.

Sunday 18th September 2016: YNU FIELD MEETING (marine): "Capturing our Coast" Bioblitz' South Bay, Scarborough, Yorks.

Meet at 10:00 at car park at TA 049/868.. Further information from Paula Lightfoot (p.lightfoot@btinternet.com)..

Saturday 24 September 2016: SLUG IDENTIFICATION WORKSHOP: Elsecar Heritage Centre, Barnsley South Yorkshire.

Leader: Robert Cameron. Sorby Invertebrate Group / Dearne Valley Landscape Project event. Free to CS members; advance booking essential. 10:30 – 16:00. Contact Derek Whiteley (invertebrates@sorby.org.uk).

Sunday 16th October – Thursday 20th October, 2016: FIELD MEETING (marine)]: St. VAAST area, Normandy.

Organiser: Jan Light (janthinalight@gmail.com, 07973 322681).

Good mixed coast with high diversity and large tidal range; low spring tides (+0.4m) late afternoon 17-18 October.

Further details t.b.a.; please contact Jan if you are interested in coming.

Sunday 16th October 2016: YNU and YWT FIELD MEETING (marine): "Capturing our Coast" Bioblitz, South Landing, Yorks.

Meet at 10:00 at car park at NZ 809/160. Further information from Paula Lightfoot ((p.lightfoot@btinternet.com).

Future dates for your diary:

Saturday 22 October 2016 * NB: CHANGED DATE***: INDOOR MEETING 14:00 (preceded by Council meeting).**

Saturday 19 November 2016: REGIONAL MEETING (venue tba).

Saturday 26 November 2016: WORKSHOP MEETING (Woking).

Saturday 10 December 2016: INDOOR MEETING 14:00 (preceded by Council meeting).

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

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

We are always happy to receive any suggestions for speakers for indoor meetings, or offers to lead field meetings, and also any suggestions about Society participation in the meetings of local and other societies. Please contact the **Programme Secretary: Bas Payne, The Mill House, Clifford Bridge, Drewsteignton, Exeter, EX6 6QE.**



Conchological Society of Great Britain and Ireland

Diary of Meetings

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

Saturday 9th April 2016: FIELD MEETING (marine and non-marine): Harwich area, Essex.

Organiser: Simon Taylor (01621 810141, marine@conchsoc.org). Joint meeting with the Essex Field Club.

Early start for low tide on foreshore north of the breakwater - diverse site with records of *Noemiamea dolioliformis* and large bivalve fauna. Once the tide covers the shore, travel to two woodland sites on the southern shores of the Stour estuary. Meet at 07:00 at N. end of Marine Parade at TM 258/315, ample parking. Low tide (-0.3m) 08:50.

Sunday 10th April 2016: YNU FIELD MEETING (marine): "Capturing our Coast" Bioblitz, Selwicks Bay, Yorks.

Meet at 11.45 at car park at TA 253/706. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Monday 11th April 2016: FIELD MEETING (non-marine): Little Malvern area, Worcestershire / Herefordshire border.

Organiser: Rosemary Hill (0118 966 5160, rosemaryhi@lineone.net).

Looking at areas in the Malvern Hills with high numbers of glow worm records, followed by visit to *Hygromia limbata* sites. Meet at 10:30 at Blackhill Car Park (pay and display) on B4232, SO 765/406.

Saturday 16th April 2016: ANNUAL GENERAL MEETING AND PRESIDENTIAL ADDRESS

Speaker: The President, Peter Topley, - 'Martin Lister – pioneer conchologist'.

14:00 – 17:30: Angela Marmont Centre, Natural History Museum, Cromwell Rd., London SW7 5BD.

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

Saturday 23rd April 2016: FIELD MEETING (non-marine): Brookwood Cemetery & Basingstoke Canal, Woking, Surrey.

Organisers: June Chatfield (01420 82214, collections@haslemeremuseum.co.uk) and Isobel Girvan (07811 440892).

Joint meeting with local Societies. Extensive Victorian cemetery grounds, with canal nearby.

Meet at 11:00 in the carpark outside Brookwood Station (SU 953/569).

Friday 29 April – Sunday 1 May 2016: LAND SNAIL IDENTIFICATION COURSE: Juniper Hall, Surrey, RH5 6DA.

Tutor: June Chatfield. Resident (single room) £240, (shared room) £220, non-residential £180. Bookings: 01306 734500 or www.field-studies-council.org/londonregion/juniperhall.

Saturday 7th May 2016: SNAIL IDENTIFICATION WORKSHOP: Elsecar Heritage Centre, Barnsley South Yorkshire.

Leader: Robert Cameron. Sorby Invertebrate Group / Dearne Valley Landscape Project event. Free to CS members; advance booking essential. 10:30 – 16:00. Contact Derek Whiteley (invertebrates@sorby.org.uk)

Sunday 8th May 2016: YNU FIELD MEETING (marine): "Capturing our Coast" Bioblitz, Runswick Bay, Yorks.

Meet at 09:30 at car park at NZ 809/159. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Sunday 5th June 2016: YNU FIELD MEETING (marine): "Capturing our Coast" Bioblitz, Boggle Hole, Yorks.

Meet at 09:00 at NZ 954/040. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Saturday 18th June 2016: FIELD MEETING (non-marine): High Farm, Wilden, Bedfordshire, MK44 2PX.

Organiser: Peter Topley (01462 615499, president@conchsoc.org). Joint meeting with the Bedfordshire Invertebrate Group.

Site with fields, ponds, ditches hedges and secondary woodland. Last year snails very close to *Anisus spirorbis* were found.

Meet at 10:30 at the drive of the house, at TL 0922/5432, where parking is available for several cars. As this is a private property it is essential to contact Peter if you are intending to come.

Sunday 3rd July 2016: FIELD MEETING (marine (and non-marine)): Lundy Bay, Cornwall

Organiser: Bas Payne (01647 24515, bas.payne@gmail.com). Joint Bioblitz meeting with National Trust.

North-facing rocky bay with rock pools, and sand exposed at low tide, approached through scrub woodland and meadows.

Meet at 09:30 at site carpark, SW 953/795. Low tide (+1.1 m) 11:20.

Sunday 24th July 2016: YNU FIELD MEETING (marine): "Capturing our Coast" Bioblitz, Filey, Yorks.

Meet at 12:30 at car park at TA 120/814. Further information from Paula Lightfoot (p.lightfoot@btinternet.com).

Sunday 7th August 2016: FIELD MEETING (non-marine): Lower Winskill Farm, Settle, North Yorkshire.

Organiser: Terry O'Connor (0779 4040684, osteoconnor@gmail.com).

Working upland farm with diverse grassland habitats, dry stone walls, wooded limestone pavement and small limestone scars. Meet at 10:30 at Lower Winskill Farm, NGR SD 8267/6648; see website for road directions..

[See page 31 for a related workshop on the following day.]

The meetings diary is continued on the inside of the back cover (page 31)